Broadband Router

User’s Manual

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Introduction

Congratulations on purchasing this Broadband Router. This Broadband Router is a cost-effective IP Sharing Router that enables multiple users to share the Internet through an ADSL or cable modem. Simply configure your Internet connection settings in the Broadband Router and plug your PC to the LAN port and you're ready to share files and access the Internet. As your network grows, you can connect another hub or switch to the router's LAN ports, allowing you to easily expand your network. The Broadband Router provides a total solution for the Small and Medium-sized Business (SMB) and the Small Office/Home Office (SOHO) markets, giving you an instant network today, and the flexibility to handle tomorrow's expansion and speed.

Features

- High Internet Access throughput
- Allow multiple users to share a single Internet line
- Supports up to 253 users
- Internet Access via Cable or xDSL modem
- Access Private LAN Servers from the Public Network
- Equipped with four LAN ports (10/100M) and one WAN port (10/100M)
- Support DHCP (Server/Client) for easy setup
- Support advance features such as: Special Applications, DMZ, Virtual Servers, Client Filtering, Firewall.
- Allow you to monitor the router's status such as: DHCP Client Log, Security Log and Device/Connection Status
- Easy to use Web-based GUI for configuration and management purposes
- Remote Management allows configuration and upgrades from a remote site (over the Internet)

Minimum Requirements

- One External xDSL (ADSL) or Cable modem with an Ethernet port (RJ-45)
- Network Interface Card (NIC) for each Personal Computer (PC)
- PCs with a Web-Browser (Internet Explorer 4.0 or higher, or Netscape Navigator 4.7 or higher)

Package Content

- One 4-port Broadband router unit
- One Quick Installation Guide
- One User Manual CD
- One Power Adapter
- Accessories

Note

The WAN "idle timeout" auto-disconnect function may not work due to abnormal activities of some network application software, computer virus or hacker attacks from the Internet. For example, some software sends network packets to the Internet in the background, even when you are not using the Internet. So please turn off your computer when you are not using it. This function also may not work with some ISP. So please make sure this function can work properly when you use this function in the first time, especially when your ISP charge you by time used.

Get to know the Broadband Router

Back Panel

The diagram (fig1.0) below shows the broadband router's back panel. The router's back panel is divided into three sections, **LAN**, **WAN** and **Reset**:

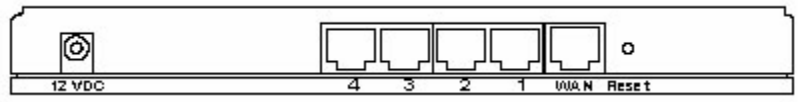


Figure 1.0

1) Local Area Network (LAN)

The Broadband router's 4 LAN ports are where you connect your LAN's PCs, printer servers, hubs and switches etc.

2) Wide Area Network (WAN)

The WAN port is the segment connected to your xDSL or Cable modem and is linked to the Internet.

3) Reset

The Reset button allows you to do one of two things.

1) If problems occur with your router, press the router's reset button with a pencil tip (for 2~4 seconds) and the router will re-boot itself, keeping your original configurations. Every time when you finished configuration the router, please also to the reset to make the new configuration take effect.

2) If problems persist or you experience extreme problems or you forgot your password, press the reset button for longer than 5 seconds and the router will reset itself to the factory default settings (**warning**: your original configurations will be replaced with the factory default settings)

Front Panel

On the router's front panel there are LED lights that inform you of the router's current status. Below is an explanation of each LED and its description.

LED	Light Status	Description
PWR	ON	Router's power supply is on
WAN 10/100M	ON	WAN port 100Mbps is connected
	Off	WAN port 10Mbps is connected
WAN LNK/ACT	ON	WAN is connected
	Off	No WAN connection
	Flashing	WAN port has Activity (ACT), data being sent
LAN 10/100M (Port 1-4)	ON	LAN port 100Mbps is connected
	Off	LAN port 10Mbps is connected
LAN LNK/ACT (Port 1-4)	ON	LAN is connected
	Off	No LAN connection
	Flashing	LAN port has Activity (ACT), data being sent

Setup Diagram

Figure 1.2 below shows a typical setup for a Local Area Network (LAN).

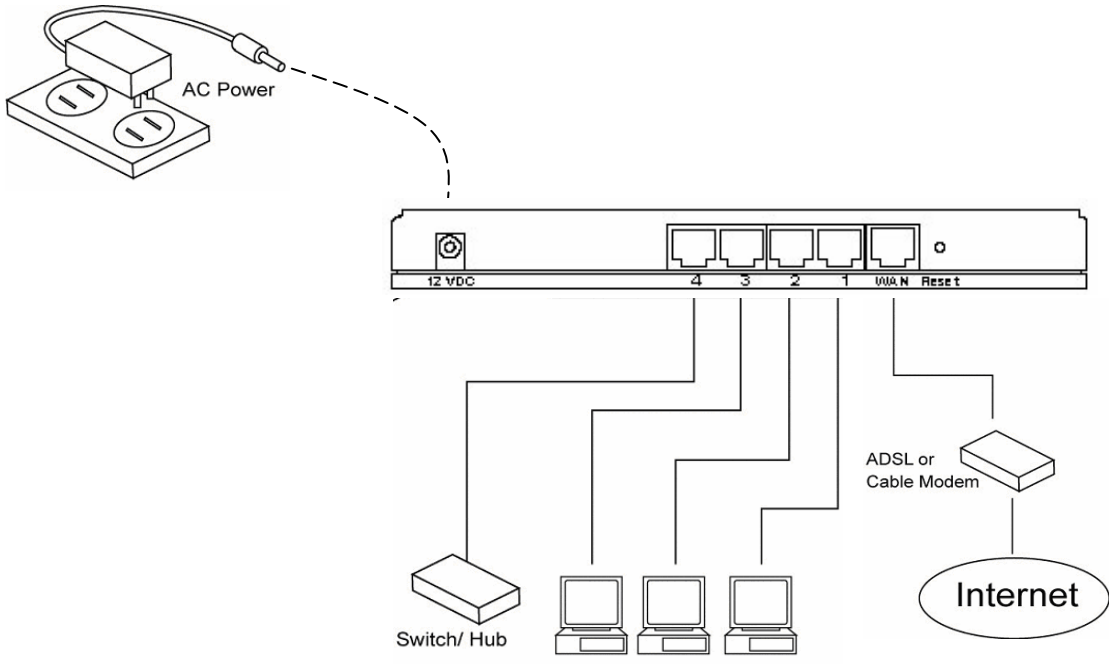


Figure 1.2

Getting started

This is a step-by-step instruction on how to start using the router and get connected to the Internet.

1) Setup your network as shown in the setup diagram above (fig 1.2).

2) You then need to set your LAN PC clients so that it can obtain an IP address automatically. All LAN clients require an IP address. Just like an address, it allows LAN clients to find one another. (If you have already configured your PC to obtain an IP automatically then proceed to step 3, page 11)

Configure your PC to obtain an IP address automatically

By default the broadband router's DHCP is on, this means that you can obtain an IP address automatically once you've configured your PC to obtain an IP address automatically. This section will show you how to configure your PC's so that it can obtain an IP address automatically for either Windows 95/98/Me, 2000 or NT operating systems. For other operating systems (Macintosh, Sun, etc.), follow the manufacturer's instructions. The following is a step-by-step illustration on how to configure your PC to obtain an IP address automatically for 2a) **Windows 95/98/Me**, 2b) **Windows XP**, 2c) **Windows 2000** and 2d) **Windows NT**.

2a) Windows 95/98/Me

1: Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.

2: Double-click *Network* icon. The *Network* window will appear.

3: Check your list of Network Components. If TCP/IP is not installed, click the *Add* button to install it now. If TCP/IP is installed, go to **step 6**.

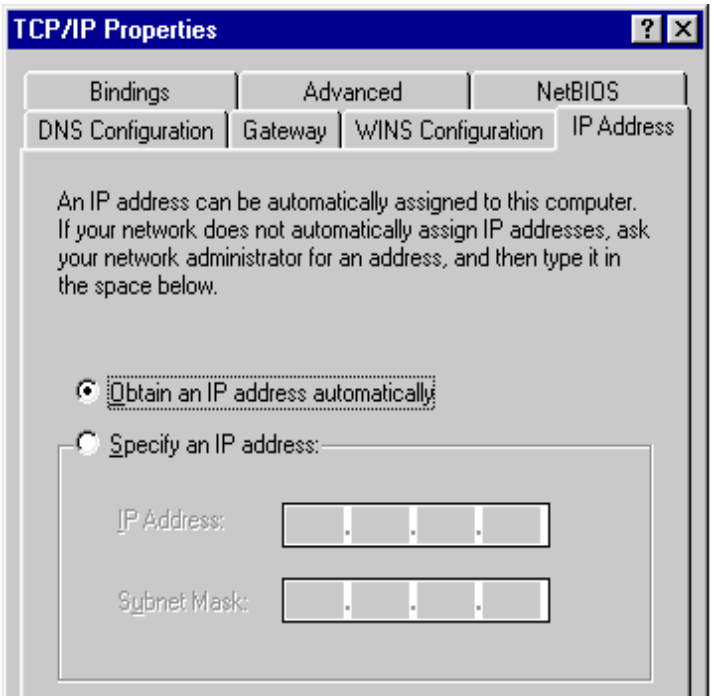
4: In the *Network Component Type* dialog box, select *Protocol* and click *Add* button.

5: In the *Select Network Protocol* dialog box, select *Microsoft* and *TCP/IP* and then click the *OK* button to start installing the TCP/IP protocol. You may need your Windows CD to complete the installation.

6: After installing TCP/IP, go back to the *Network* dialog box. Select *TCP/IP* from the list of *Network Components* and then click the *Properties* button.

7: Check each of the tabs and verify the following settings:

- **Bindings**: Check *Client for Microsoft Networks* and *File and printer sharing for Microsoft Networks*.
- **Gateway**: All fields are blank.
- **DNS Configuration**: Select *Disable DNS.*
- **WINS Configuration**: Select *Disable WINS Resolution.*
- **IP Address**: Select *Obtain IP address automatically***.**


TCP/IP Properties
Bindings
Advanced
NetBIOS
DNS Configuration
Gateway
WINS Configuration
IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.
Obtain an IP address automatically
Specify an IP address:
IP Address:
Subnet Mask:

8: Reboot the PC. Your PC will now obtain an IP address automatically from your Broadband Router's DHCP server.

Note: Please make sure that the Broadband router's DHCP server is the only DHCP server available on your LAN.

Once you've configured your PC to obtain an IP address automatically, please proceed to Step 3

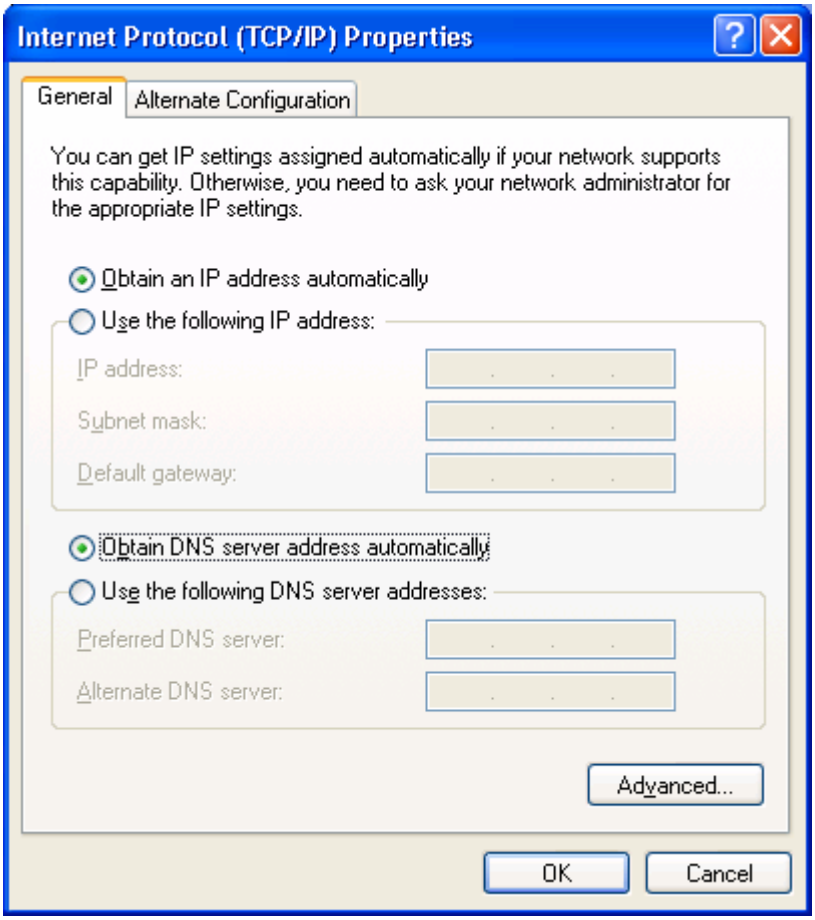
2b) Windows XP

1: Click the *Start* button and select *Settings*, then click *Network Connections.* The *Network Connections* window will appear.

2: Double-click *Local Area Connection* icon. The *Local Area Connection* window will appear.

3: Check your list of Network Components. You should see *Internet Protocol [TCP/IP]* on your list. Select it and click the *Properties* button.

4: In the Internet Protocol (TCP/IP) Properties window, select *Obtain an IP address automatically* and *Obtain DNS server address automatically* as shown on the following screen.


Internet Protocol (TCP/IP) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

5: Click *OK* to confirm the setting. Your PC will now obtain an IP address automatically from your Broadband Router's DHCP server.

Note: Please make sure that the Broadband router's DHCP server is the only DHCP server available on your LAN.

Once you've configured your PC to obtain an IP address automatically, please proceed to Step 3.

2c) Windows 2000

1: Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.

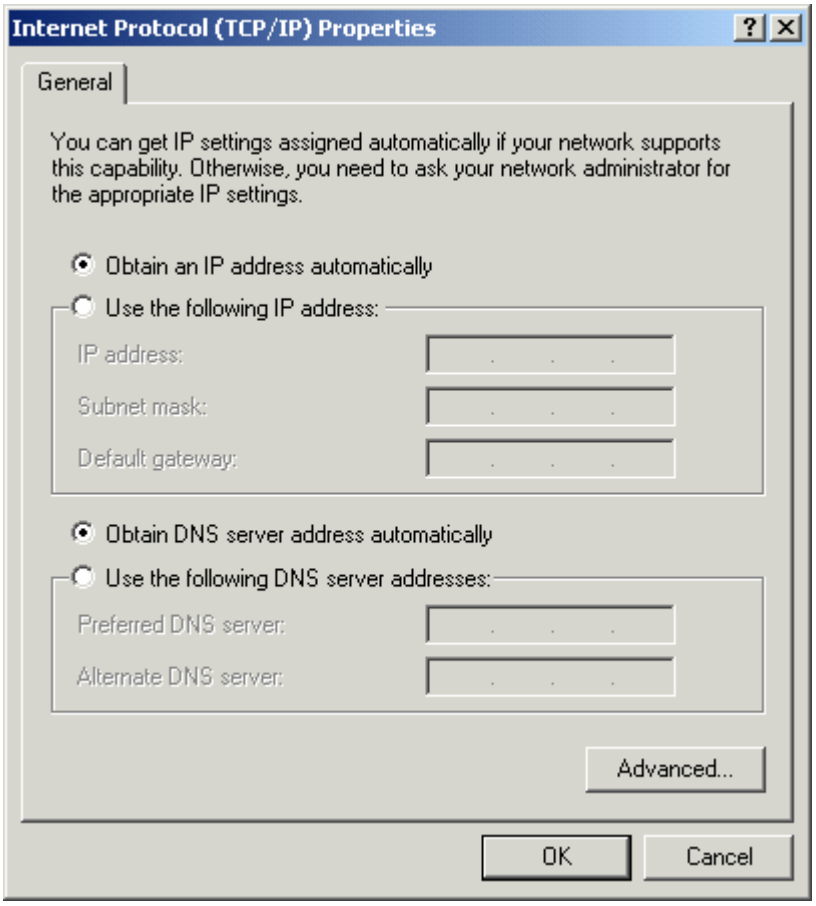
2: Double-click *Network and Dial-up Connections* icon. In the *Network and Dial-up Connection* window, double-click *Local Area Connection* icon. The *Local Area Connection* window will appear.

3: In the *Local Area Connection* window, click the *Properties* button.

4: Check your list of Network Components. You should see *Internet Protocol [TCP/IP]* on your list. Select it and click the *Properties* button.

5: In the Internet Protocol (TCP/IP) Properties window, select *Obtain an IP address*

automatically and *Obtain DNS server address automatically* as shown on the following screen.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

6: Click *OK* to confirm the setting. Your PC will now obtain an IP address automatically from your Broadband Router's DHCP server.

Note: Please make sure that the Broadband router's DHCP server is the only DHCP server available on your LAN.

Once you've configured your PC to obtain an IP address automatically, please proceed to Step 3.

2d) Windows NT

1: Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.

2: Double-click *Network* icon. The *Network* window will appear. Select the *Protocol* tab from the *Network* window.

3: Check if the *TCP/IP Protocol* is on your list of *Network Protocols*. If TCP/IP is not installed, click the *Add* button to install it now. If TCP/IP is installed, go to **step 5**.

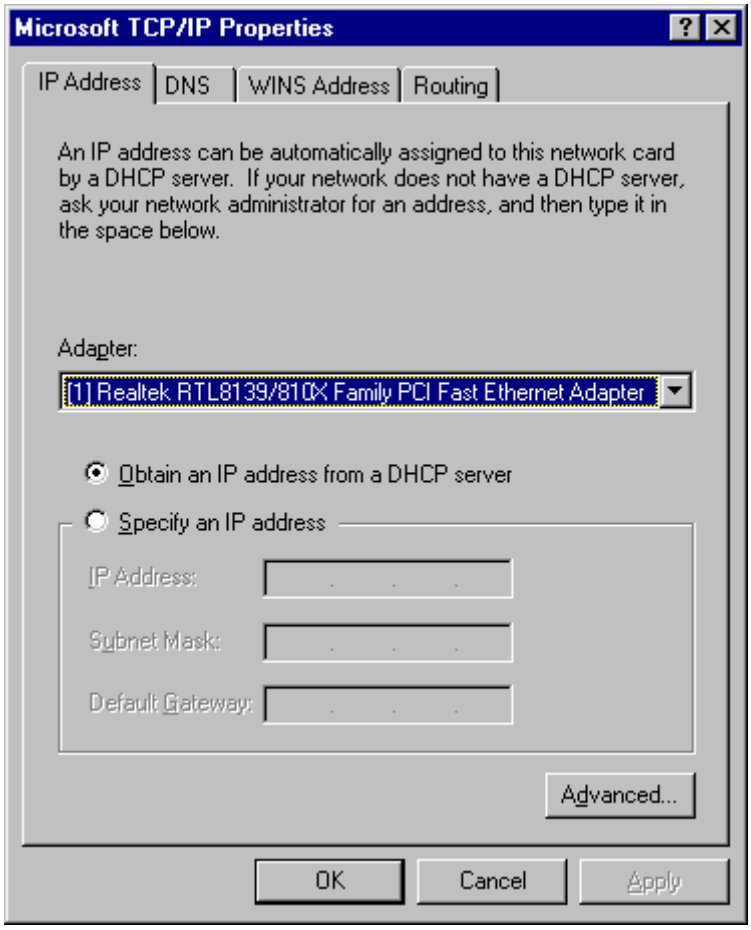
4: In the *Select Network Protocol* window, select the *TCP/IP Protocol* and click the *Ok*

button to start installing the TCP/IP protocol. You may need your Windows CD to complete the installation.

5: After you install TCP/IP, go back to the *Network* window. Select *TCP/IP* from the list of *Network Protocols* and then click the *Properties* button.

6: Check each of the tabs and verify the following settings:

- **IP Address:** Select *Obtain an IP address from a DHCP server*.
- **DNS:** Let all fields are blank.
- **WINS:** Let all fields are blank.
- **Routing:** Let all fields are blank.


Microsoft TCP/IP Properties
IP Address
DNS
WINS Address
Routing
An IP address can be automatically assigned to this network card by a DHCP server. If your network does not have a DHCP server, ask your network administrator for an address, and then type it in the space below.
Adapter:
[1] Realtek RTL8139/810X Family PCI Fast Ethernet Adapter
Obtain an IP address from a DHCP server
Specify an IP address
IP Address:
Subnet Mask:
Default Gateway:
Advanced...
OK
Cancel
Apply

7: Click *OK* to confirm the setting. Your PC will now obtain an IP address automatically from your Broadband Router's DHCP server.

Note: Please make sure that the Broadband router's DHCP server is the only DHCP server available on your LAN.

Once you've configured your PC to obtain an IP address automatically, please proceed to Step 3.

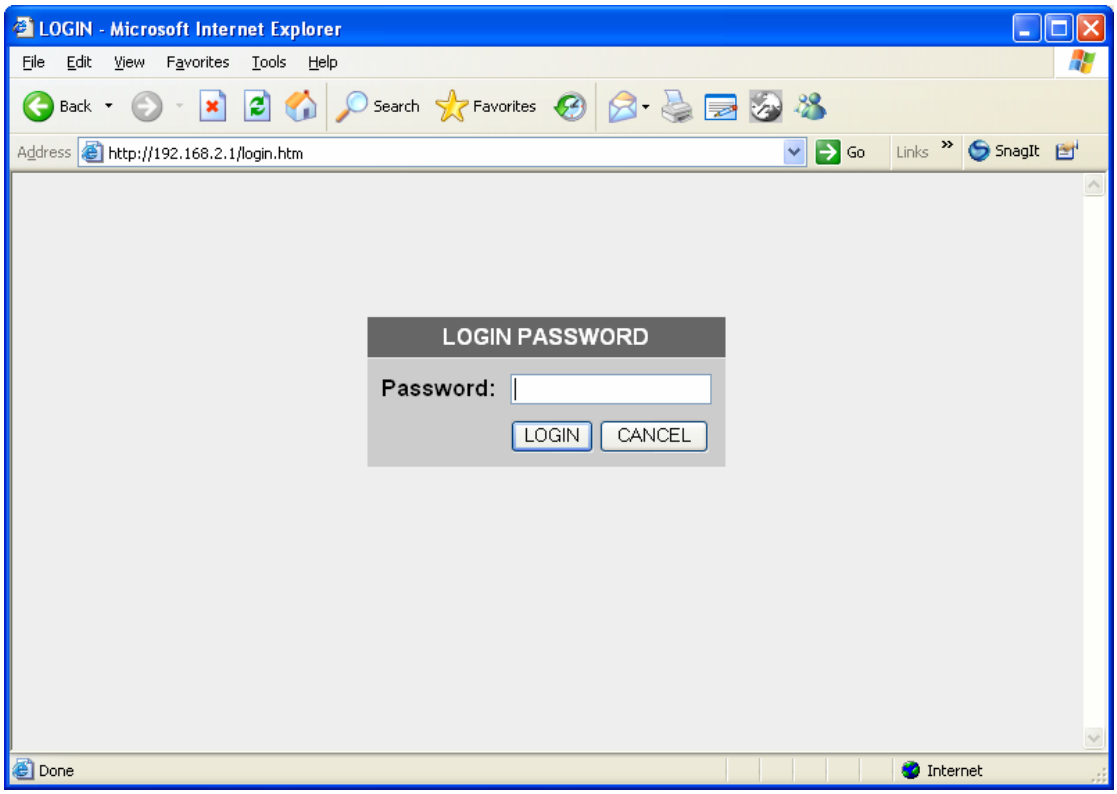
3) Once you have configured your PCs to obtain an IP address automatically, the router's DHCP server will automatically give your LAN clients an IP address. By default the Broadband Router's DHCP server is enabled so that you can obtain an IP address automatically. To see if you have obtained an IP address, see Appendix A.

Note: Please make sure that the Broadband router's DHCP server is the only DHCP server available on your LAN. If there is another DHCP on your network, then you'll need to switch one of the DHCP servers off. (To disable the Broadband router's DHCP server see chapter 2 LAN Port)

4) Once your PC has obtained an IP address from your router, enter the default IP address **192.168.2.1** (broadband router's IP address) into your PC's web browser and press <enter>

5) The login screen below will appear. Enter the password and then click <OK> to login.

Note: By default the password is empty string. For security reasons it is recommended that you change the password as soon as possible (in General setup/system/password, see chapter 2)



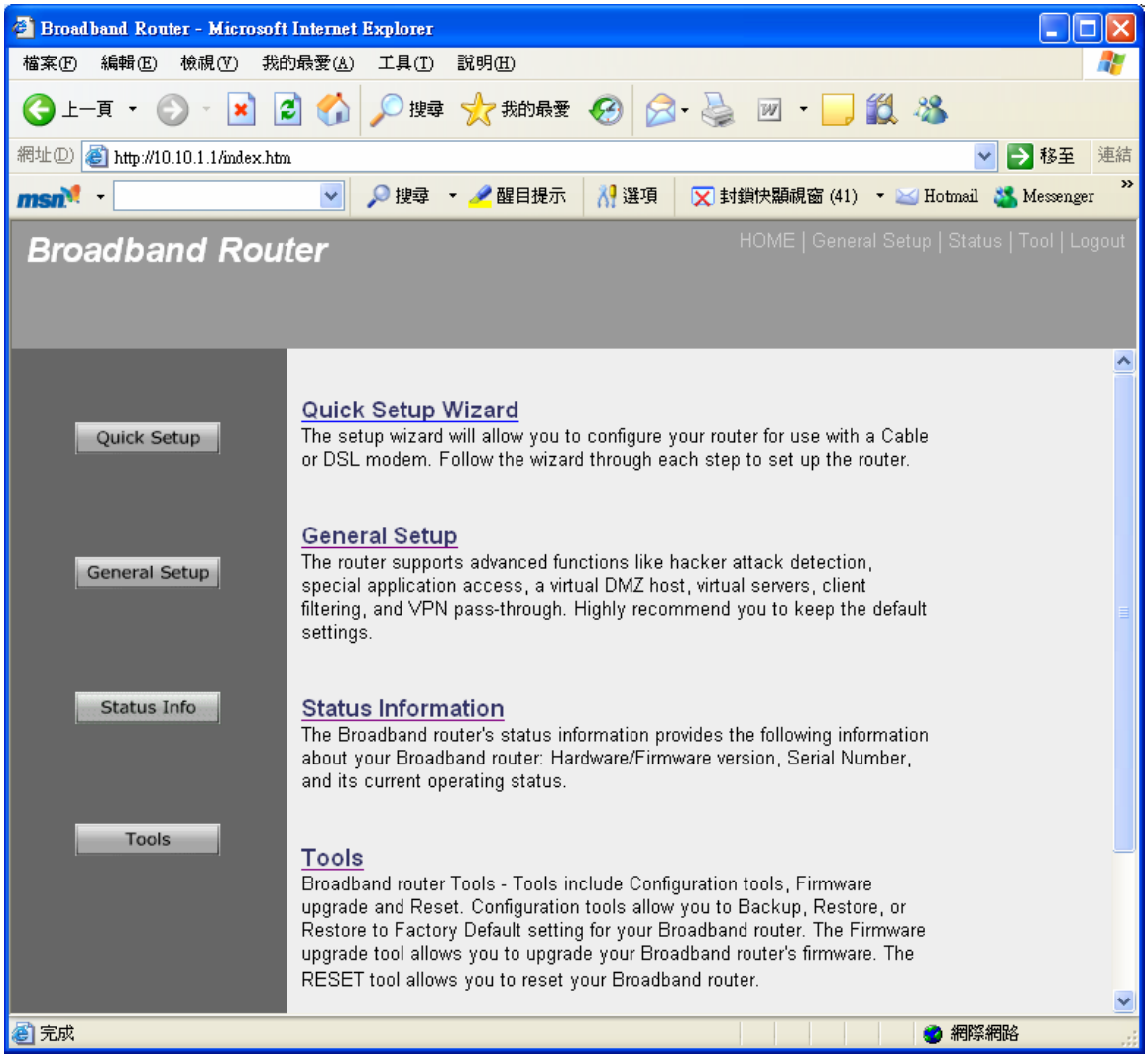
6) The **HOME** page screen below will appear. The **Home** Page is divided into four sections, **Quick Setup Wizard**, **General Setup**, **Status Information** and **Tools.**

Quick Setup Wizard *(Chapter 1)*
If you only want to start using the broadband router as an Internet Access device then you ONLY need to configure the screens in the Quick Setup Wizard section.

General Setup *(Chapter 2)*
If you want to use more advanced features that the broadband router has to offer, then you'll need to configure the Quick Setup Wizard and the General Setup section. Alternatively, you can just configure the General Setup section, since the General Setup/WAN and the Quick Setup Wizard contain the same configurations.

Status Information *(Chapter 3)*
The Status Information section is for you to monitor the router's current status information only.

Tools *(Chapter 4)*
If you want to Reset the router (because of problems) or save your configurations or upgrade the firmware then the Tools section is the place to do this.


Broadband Router - Microsoft Internet Explorer
http://10.10.1.1/index.htm
Broadband Router
HOME | General Setup | Status | Tool | Logout
Quick Setup
General Setup
Status Info
Tools
Quick Setup Wizard
The setup wizard will allow you to configure your router for use with a Cable or DSL modem. Follow the wizard through each step to set up the router.
General Setup
The router supports advanced functions like hacker attack detection, special application access, a virtual DMZ host, virtual servers, client filtering, and VPN pass-through. Highly recommend you to keep the default settings.
Status Information
The Broadband router's status information provides the following information about your Broadband router: Hardware/Firmware version, Serial Number, and its current operating status.
Tools
Broadband router Tools - Tools include Configuration tools, Firmware upgrade and Reset. Configuration tools allow you to Backup, Restore, or Restore to Factory Default setting for your Broadband router. The Firmware upgrade tool allows you to upgrade your Broadband router's firmware. The RESET tool allows you to reset your Broadband router.

Menu	Description
Quick Setup Wizard *(Chapter 1)*	Select your Internet connection type and then input the configurations needed to connect to your Internet Service Provider (ISP).
General Setup *(Chapter 2)*	This section contains configurations for the Broadband router's advance functions such as: Address Mapping, Virtual Server, Access Control, Hacker Attack Prevention, DMZ, Special applications and other functions to meet your LAN requirements.
Status Information *(Chapter 3)*	In this section you can see the Broadband router's system information, Internet Connection, Device Status, Security Log and DHCP client Log information.
Tools *(Chapter 4)*	This section contains the broadband router's Tools - Tools include Configuration tools, Firmware upgrade and Reset. Configuration tools allow you to Backup (save), Restore, or Restore to Factory Default configuration for your Broadband router. The Firmware upgrade tool allows you to upgrade your Broadband router's firmware. The RESET tool allows you to reset your Broadband router.

7) Click on **Quick Setup Wizard** (see chapter 1) to start configuring settings required by your ISP so that you can start accessing the Internet. The other sections (General Setup, Status Information and Tools) do not need to be configured unless you wish to implement/monitor more advance features/information.

Select the section (Quick Setup Wizard, General Setup, Status Information and Tools) you wish to configure and proceed to the corresponding chapter. Use the selections on the web management's top right hand page to navigate around the web-based management User Interface.

Note: Click "**Logout**" on the Web management's top right hand side to leave management tool when you have finished configuration.

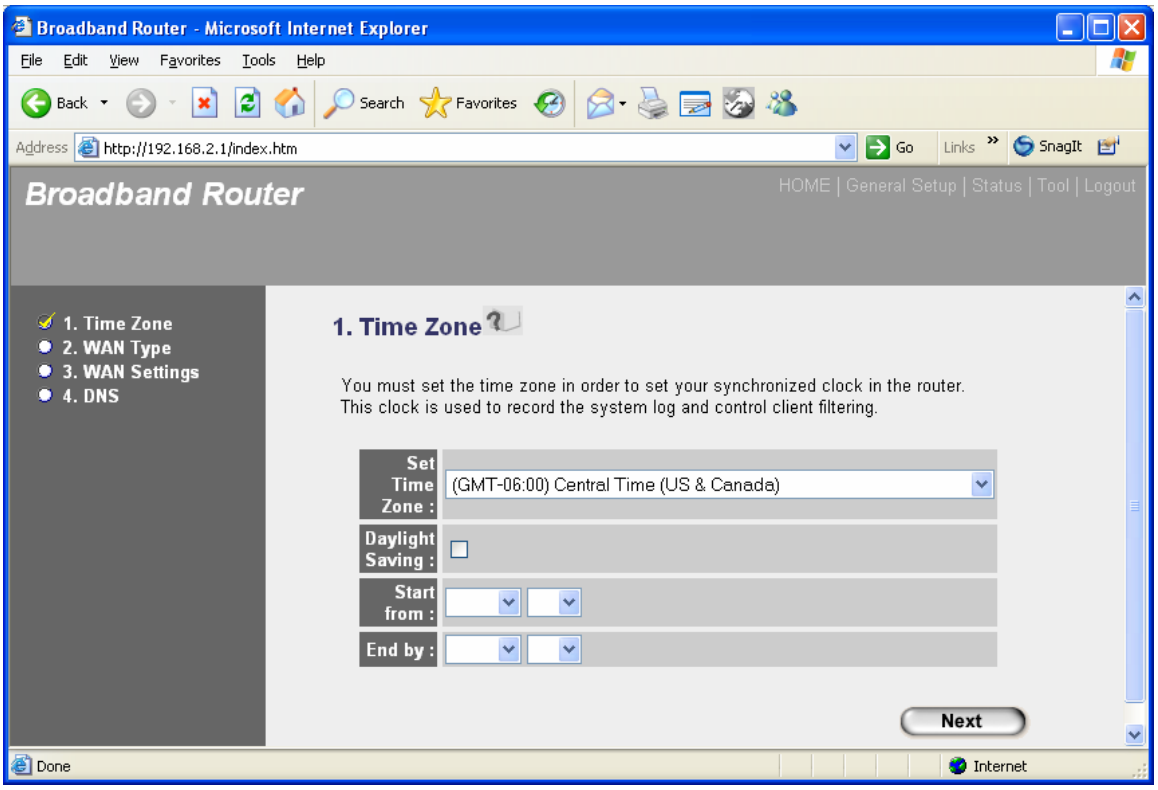
Chapter 1

Quick Setup

The Quick Setup section is designed to get you using the broadband router as quickly as possible. In the Quick Setup you are required to fill in only the information necessary to access the Internet. Once you click on the **Quick Setup Wizard** in the HOME page, you should see the screen below.

Step 1) Time Zone

The Time Zone allows your router to base its time on the settings configured here, this will affect functions such as Log entries and Firewall settings.


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
1. Time Zone
2. WAN Type
3. WAN Settings
4. DNS
1. Time Zone
You must set the time zone in order to set your synchronized clock in the router.
This clock is used to record the system log and control client filtering.
Set Time Zone :
(GMT-06:00) Central Time (US & Canada)
Daylight Saving :
Start from :
End by :
Next
Done
Internet

Parameter	Description
Set Time Zone	Select the time zone of the country you are currently in. The router will set its time based on your selection.
Enable Daylight Saving	The router can also take Daylight savings into account. If you wish to use this function, you must check/tick the enable box to enable your daylight saving configuration (below).
Start from	Select the period in which you wish to start daylight Savings Time

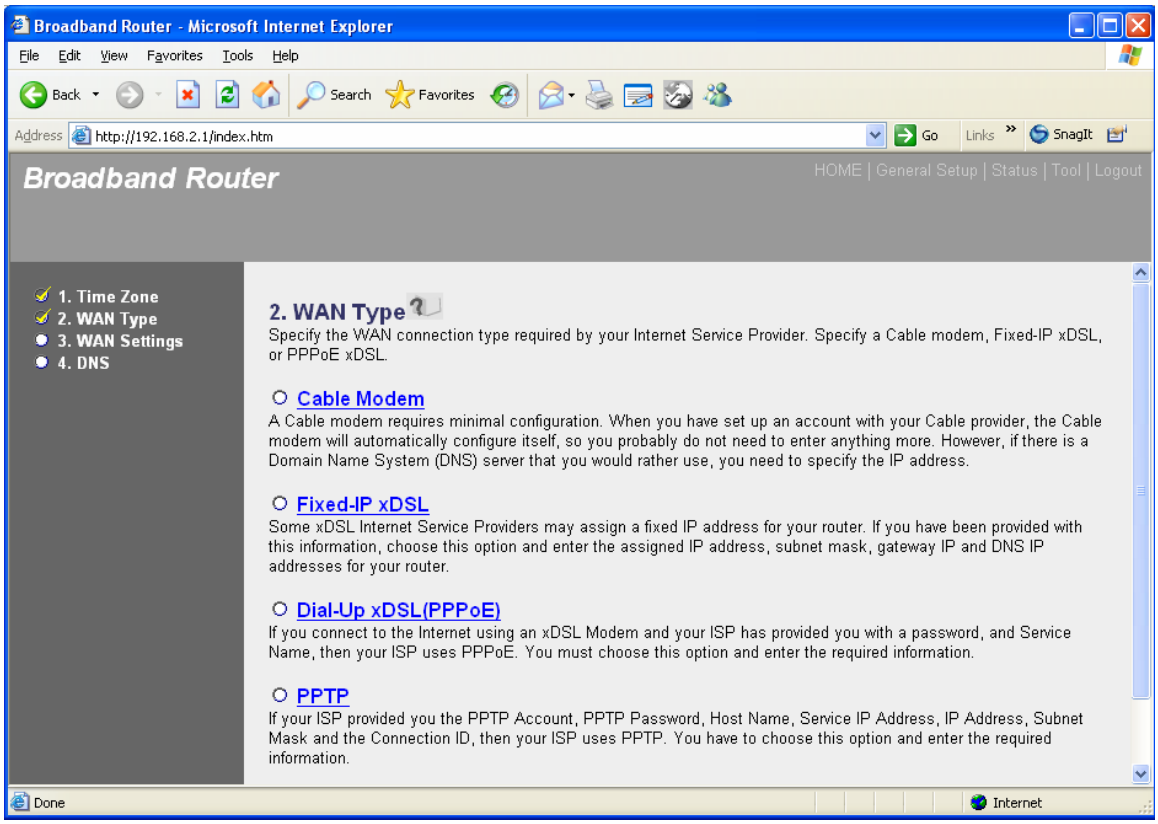
End by	Select the period in which you wish to end daylight Savings Time

Click on **NEXT** to proceed to the next page (step 2) Broadband Type.

Step 2) WAN Type

In this section you have to select one of four types of connections that you will be using to connect your broadband router's WAN port to your ISP (see screen below).

Note: Different ISP's require different methods of connecting to the Internet, please check with your ISP as to the type of connection it requires.


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
1. Time Zone
2. WAN Type
3. WAN Settings
4. DNS
2. WAN Type
Specify the WAN connection type required by your Internet Service Provider. Specify a Cable modem, Fixed-IP xDSL, or PPPoE xDSL.
Cable Modem
A Cable modem requires minimal configuration. When you have set up an account with your Cable provider, the Cable modem will automatically configure itself, so you probably do not need to enter anything more. However, if there is a Domain Name System (DNS) server that you would rather use, you need to specify the IP address.
Fixed-IP xDSL
Some xDSL Internet Service Providers may assign a fixed IP address for your router. If you have been provided with this information, choose this option and enter the assigned IP address, subnet mask, gateway IP and DNS IP addresses for your router.
Dial-Up xDSL(PPPoE)
If you connect to the Internet using an xDSL Modem and your ISP has provided you with a password, and Service Name, then your ISP uses PPPoE. You must choose this option and enter the required information.
PPTP
If your ISP provided you the PPTP Account, PPTP Password, Host Name, Service IP Address, IP Address, Subnet Mask and the Connection ID, then your ISP uses PPTP. You have to choose this option and enter the required information.
Done
Internet

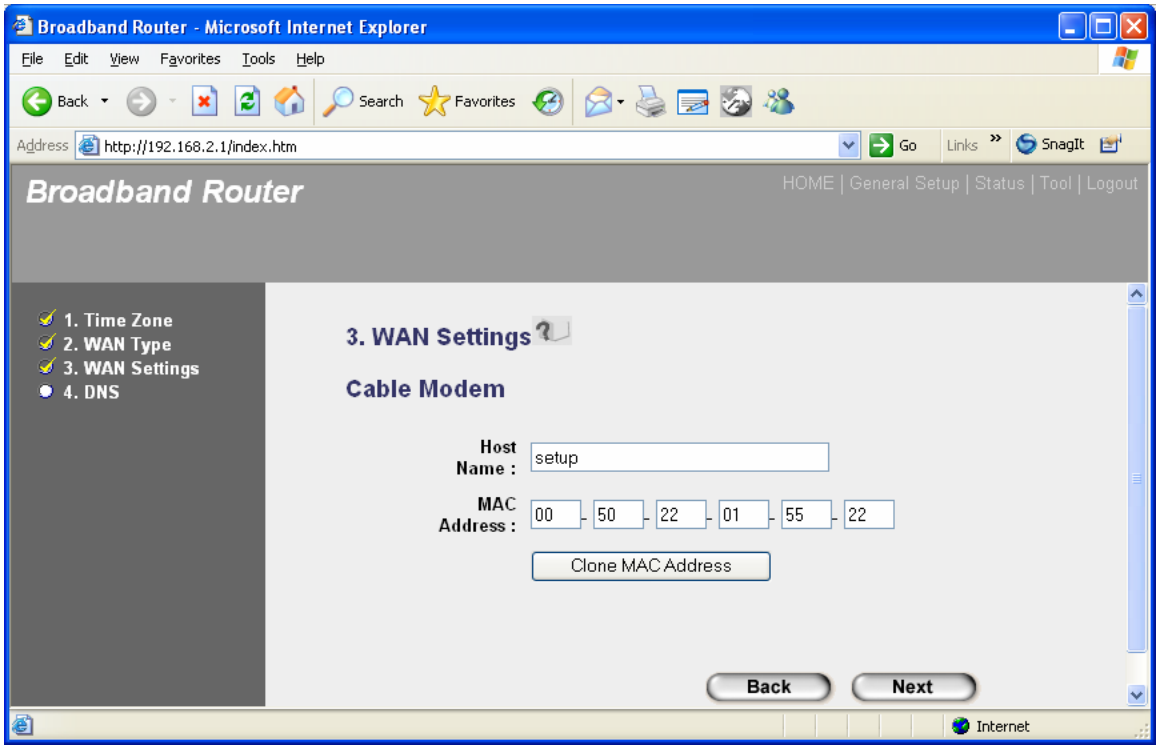
Menu	Description
1.1 Cable Modem	Your ISP will automatically give you an IP address
1.2 Fixed-IP xDSL	Your ISP has given you an IP address already
1.3 PPPoE	Your ISP requires you to use a Point-to-Point Protocol over Ethernet (PPPoE) connection.
1.4 PPTP	Your ISP requires you to use a Point-to-Point Tunneling Protocol (PPTP) connection.

Click on one of the WAN type and then proceed to the manual's relevant sub-section (**1.1**, **1.2**, **1.3** or **1.4**). Click on **Back** to return to the previous screen.

1.1 Cable Modem

Choose Cable Modem if your ISP will automatically give you an IP address. Some ISP's may also require that you fill in additional information such as Host Name and MAC address (see screen below).

Note: The Host Name and MAC address section is *optional* and you can skip this section if your ISP does not require these settings for you to connect to the Internet.

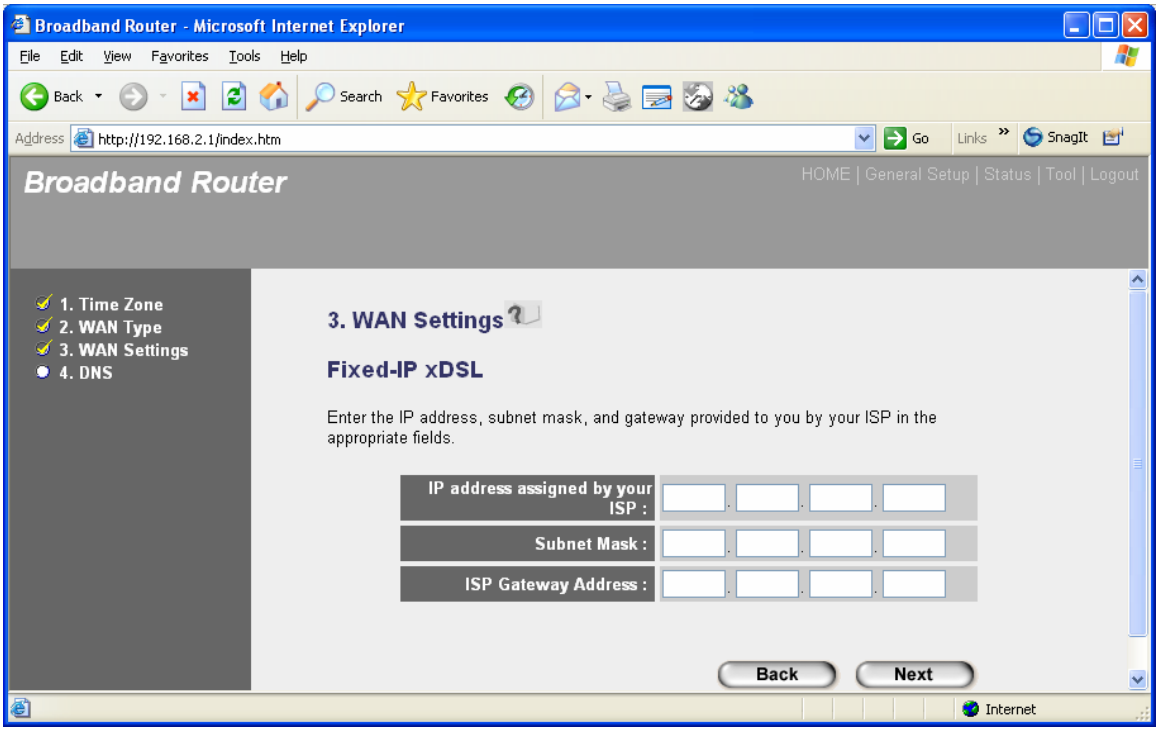


Parameters	Description
Host Name	If your ISP requires a Host Name, type in the host name provided by your ISP, otherwise leave it blank if your ISP does not require a Host Name.
MAC Address	Your ISP may require a particular MAC address in order for you to connect to the Internet. This MAC address is the PC's MAC address that your ISP had originally connected your Internet connection to. Type in this MAC address in this section or use the "**Clone MAC Address"** button to replace the WAN MAC address with the MAC address of that PC (you have to be using that PC for the Clone MAC Address button to work). To find out the PC's MAC address see Appendix A. (see Glossary for an explanation on MAC address)

Click on **NEXT** to proceed to the next page (step 3) DNS.

1.2 Fixed-IP xDSL

Select Fixed-IP xDSL if your ISP has given you a specific IP address for you to use. Your ISP should provide all the information required in this section.


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
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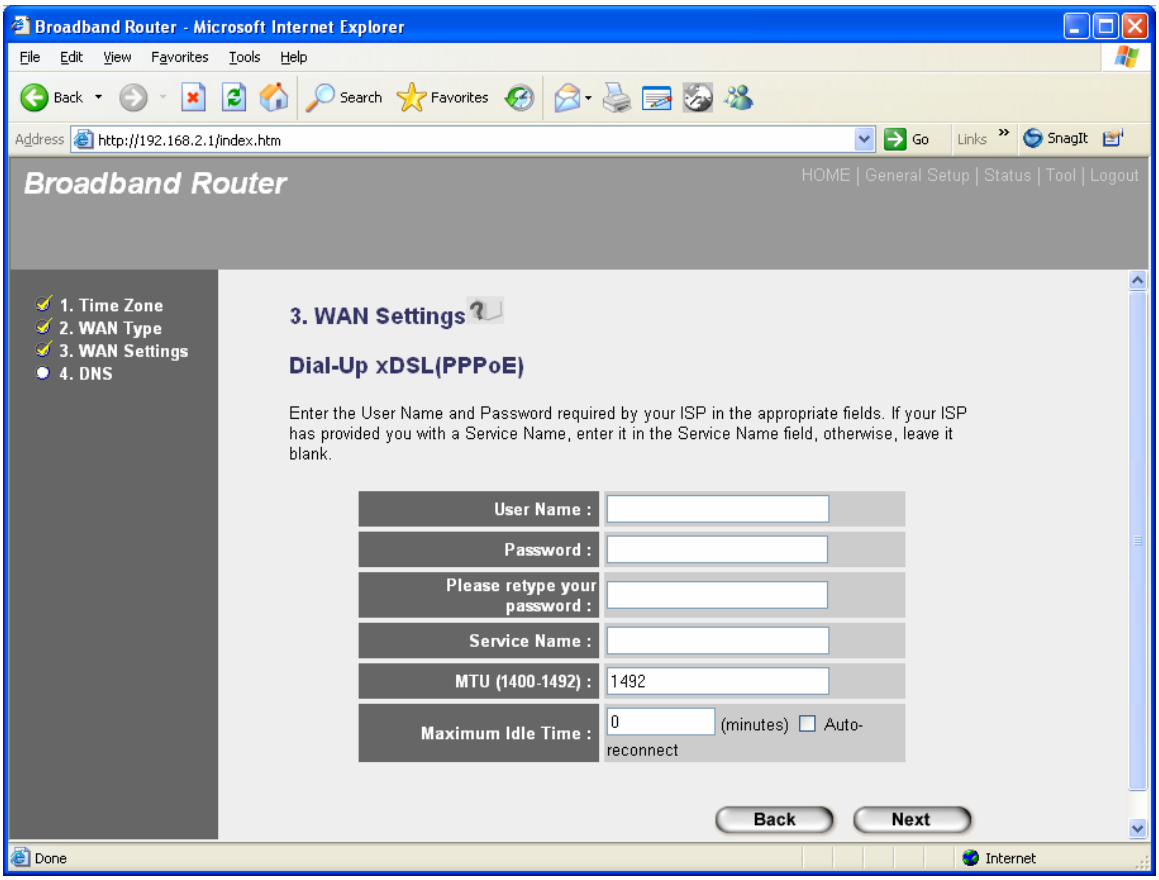
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
1. Time Zone
2. WAN Type
3. WAN Settings
4. DNS
3. WAN Settings
Fixed-IP xDSL
Enter the IP address, subnet mask, and gateway provided to you by your ISP in the appropriate fields.
IP address assigned by your ISP :
Subnet Mask :
ISP Gateway Address :
Back
Next
Internet

Parameters	Description
IP	This is the IP address that your ISP has given you.
Gateway IP	This is the ISP's IP address gateway
Subnet Mask	Enter the Subnet Mask provided by your ISP (e.g. 255.255.255.0)

Click on **NEXT** to proceed to the next page (step 3) DNS.

1.3 PPPoE

Select PPPoE if your ISP requires the PPPoE protocol to connect you to the Internet. Your ISP should provide all the information required in this section.


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
1. Time Zone
2. WAN Type
3. WAN Settings
4. DNS
3. WAN Settings
Dial-Up xDSL(PPPoE)
Enter the User Name and Password required by your ISP in the appropriate fields. If your ISP has provided you with a Service Name, enter it in the Service Name field, otherwise, leave it blank.
User Name :
Password :
Please retype your password :
Service Name :
MTU (1400-1492) :
1492
Maximum Idle Time :
0
(minutes)
Auto-reconnect
Back
Next
Done
Internet

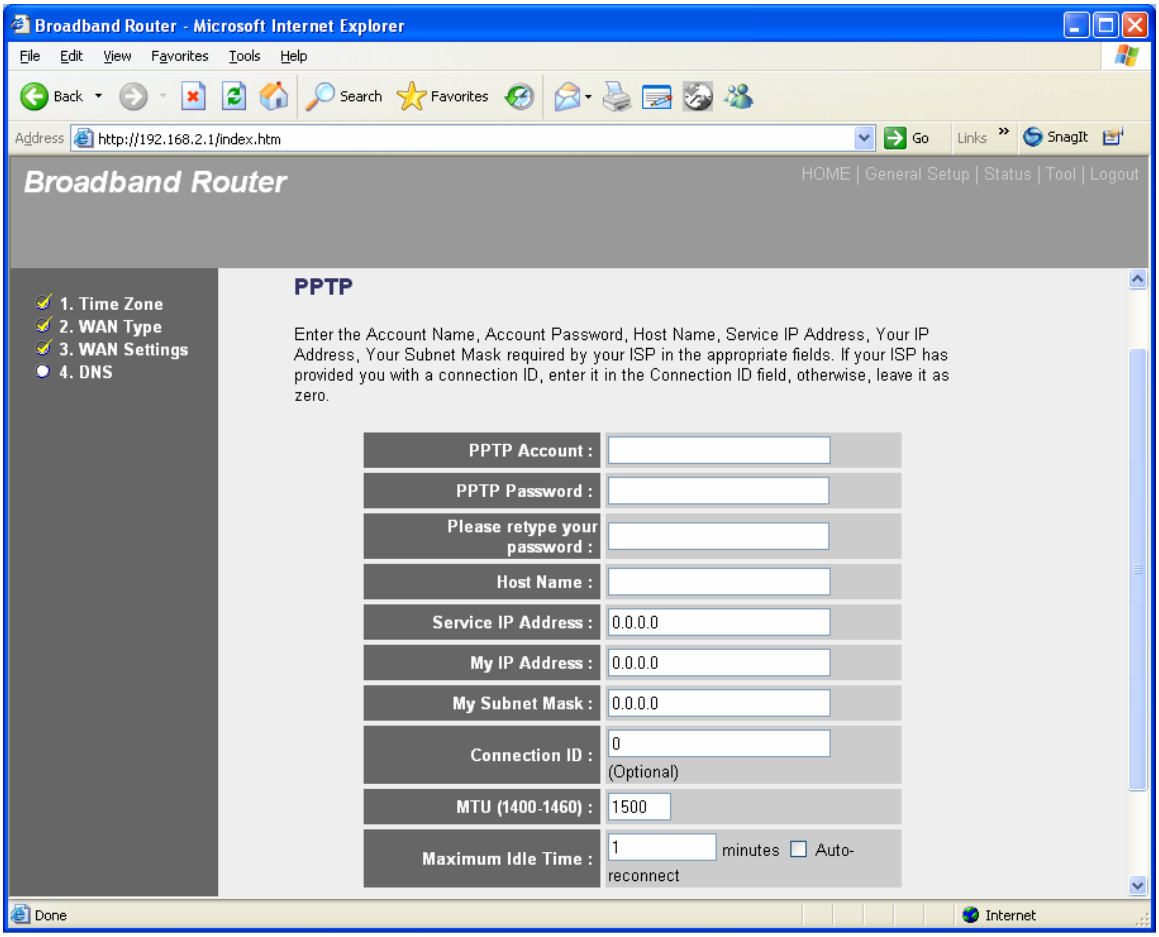
Parameter	Description
User Name	Enter the User Name provided by your ISP for the PPPoE connection
Password	Enter the Password provided by your ISP for the PPPoE connection
Service Name	This is optional. Enter the Service name should your ISP requires it, otherwise leave it blank.
MTU	You can specify the maximum size of your transmission packet to the Internet. Leave it as it is if you to not wish to set a maximum packet size.
Maximum Idle Time	Enter the Maximum Idle Time (in minutes) before the WAN line automatically being disconnected. Enter “0” if you wish the WAN line always to be connected. **Note:** This “idle timeout” function may not work due to abnormal activities of some network application software, computer virus or hacker attacks from the Internet. For example, some software sends network packets to the Internet in the background, even when you are not using the Internet. So please turn off your

	computer when you are not using it. This function also may not work with some ISP. So please make sure this function can work properly when you use this function in the first time, especially your ISP charge you by time used.
Auto-reconnect	Check this box to enable Auto-reconnect. If Auto-reconnect is enabled, the router will automatically connect to the ISP in the first time when a user try to access Internet after the WAN line being disconnected due to idle time out.

Click on **NEXT** to proceed to the next page (step 3) DNS.

1.4 PPTP

Select PPTP if your ISP requires the PPTP protocol to connect you to the Internet. Your ISP should provide all the information required in this section.


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
1. Time Zone
2. WAN Type
3. WAN Settings
4. DNS
PPTP
Enter the Account Name, Account Password, Host Name, Service IP Address, Your IP Address, Your Subnet Mask required by your ISP in the appropriate fields. If your ISP has provided you with a connection ID, enter it in the Connection ID field, otherwise, leave it as zero.
PPTP Account :
PPTP Password :
Please retype your password :
Host Name :
Service IP Address : 0.0.0.0
My IP Address : 0.0.0.0
My Subnet Mask : 0.0.0.0
Connection ID : 0 (Optional)
MTU (1400-1460) : 1500
Maximum Idle Time : 1 minutes Auto-reconnect
Done
Internet

Parameter	Description

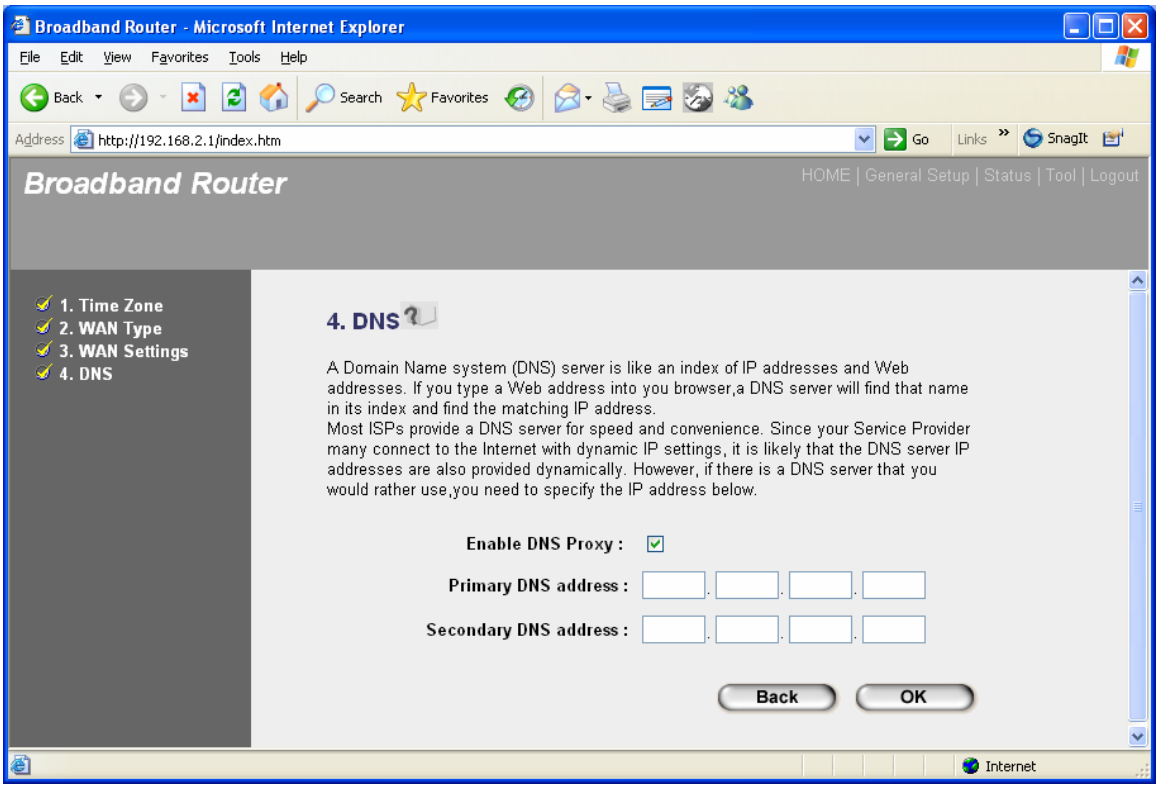
PPTP Account	Enter the User Name provided by your ISP for the PPTP connection. Sometimes called a Connection ID
PPTP Password	Enter the Password provided by your ISP for the PPTP connection
Host Name	Enter the Host Name of this router.
Service IP Address	Enter the IP address of the ISP Gateway or PPTP Gateway.
My IP Address	This is the IP address that your ISP has given you to establish a PPTP connection.
My Subnet Mask	Enter the Subnet Mask provided by your ISP (e.g. 255.255.255.0)
Connection ID	This is the ID given by ISP. This is optional.
MTU	You can specify the maximum size of your transmission packet to the Internet. Leave it as it is if you to not wish to set a maximum packet size.
Maximum Idle Time	Enter the Maximum Idle Time (in minutes) before the WAN line automatically being disconnected. Enter "0" if you wish the WAN line always to be connected. **Note:** This "idle timeout" function may not work due to abnormal activities of some network application software, computer virus or hacker attacks from the Internet. For example, some software sends network packets to the Internet in the background, even when you are not using the Internet. So please turn off your computer when you are not using it. This function also may not work with some ISP. So please make sure this function can work properly when you use this function in the first time, especially your ISP charge you by time used.
Auto-reconnect	Check this box to enable Auto-reconnect. If Auto-reconnect is enabled, the router will automatically connect to the ISP in the first time when a user try to access Internet after the WAN line being disconnected due to idle time out.

Click on **NEXT** to proceed to the next page (step 3) DNS.

Step 3) DNS

A Domain Name System (DNS) server is like an index of IP addresses and Web addresses. If you type a Web address into your browser, such as www.router.com, a DNS server will find that name in its index and the matching IP address. Most ISPs provide a DNS server for speed and convenience. If your Service Provider connects you to the Internet with dynamic IP settings, it is

likely that the DNS server IP address is provided automatically. However, if there is a DNS server that you would rather use, you need to specify the IP address of that DNS server here.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File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
1. Time Zone
2. WAN Type
3. WAN Settings
4. DNS
4. DNS
A Domain Name system (DNS) server is like an index of IP addresses and Web addresses. If you type a Web address into you browser,a DNS server will find that name in its index and find the matching IP address.
Most ISPs provide a DNS server for speed and convenience. Since your Service Provider many connect to the Internet with dynamic IP settings, it is likely that the DNS server IP addresses are also provided dynamically. However, if there is a DNS server that you would rather use,you need to specify the IP address below.
Enable DNS Proxy :
Primary DNS address :
Secondary DNS address :
Back
OK
Internet

Click <**OK>** when you have finished the configuration above. **Congratulations**! You have completed the basic configuration for router. You can start using the router now, if you wish to use some of the advance features supported by this router see chapter 2, 3, 4. Click on **Back** to return to the previous screen.

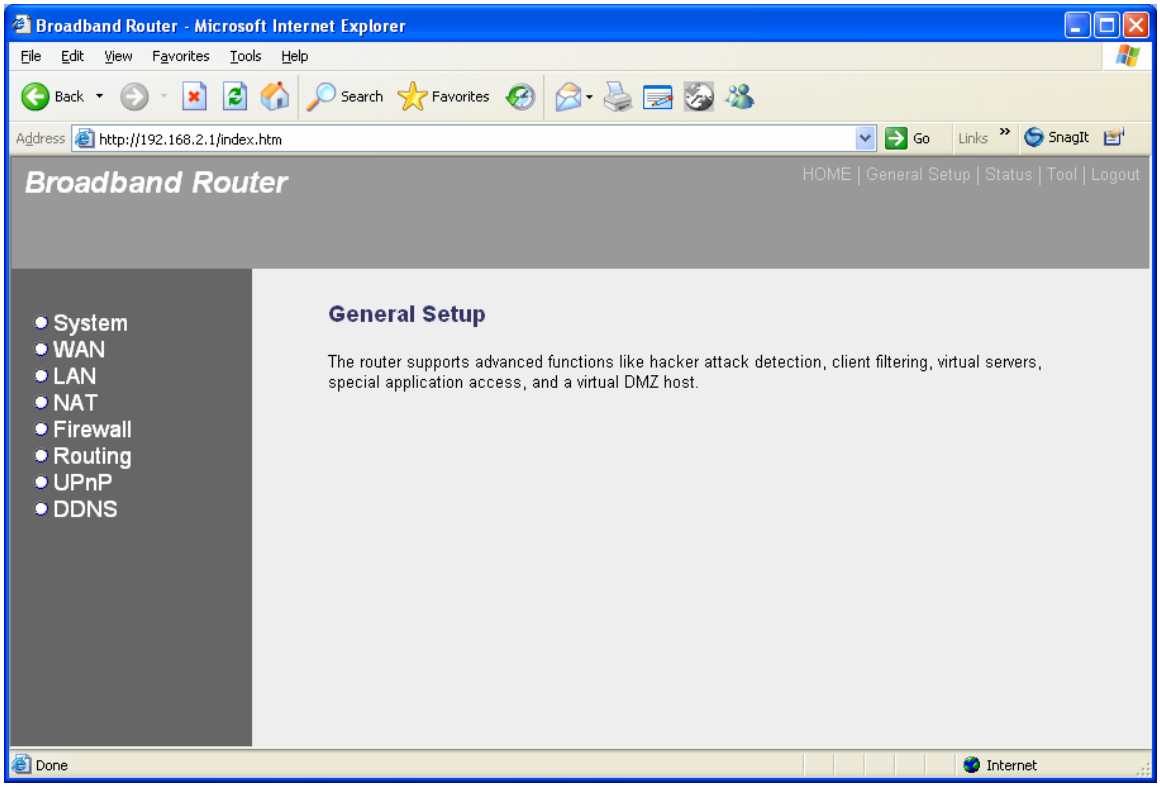
Chapter 2

General Settings

Once you click on the **General Setup** button at the Home Page, you should see the screen below.

If you have already configured the Quick Setup Wizard you do NOT need to configure anything thing in the General Setup screen for you to start using the Internet.

The General Setup contains advanced features that allow you to configure the router to meet your network's needs such as: Port Forwarding, Virtual Server, Client Filtering, Hacker Prevention, Special Applications, DMZ and other functions.



Below is a general description of what advance functions are available for this broadband router.

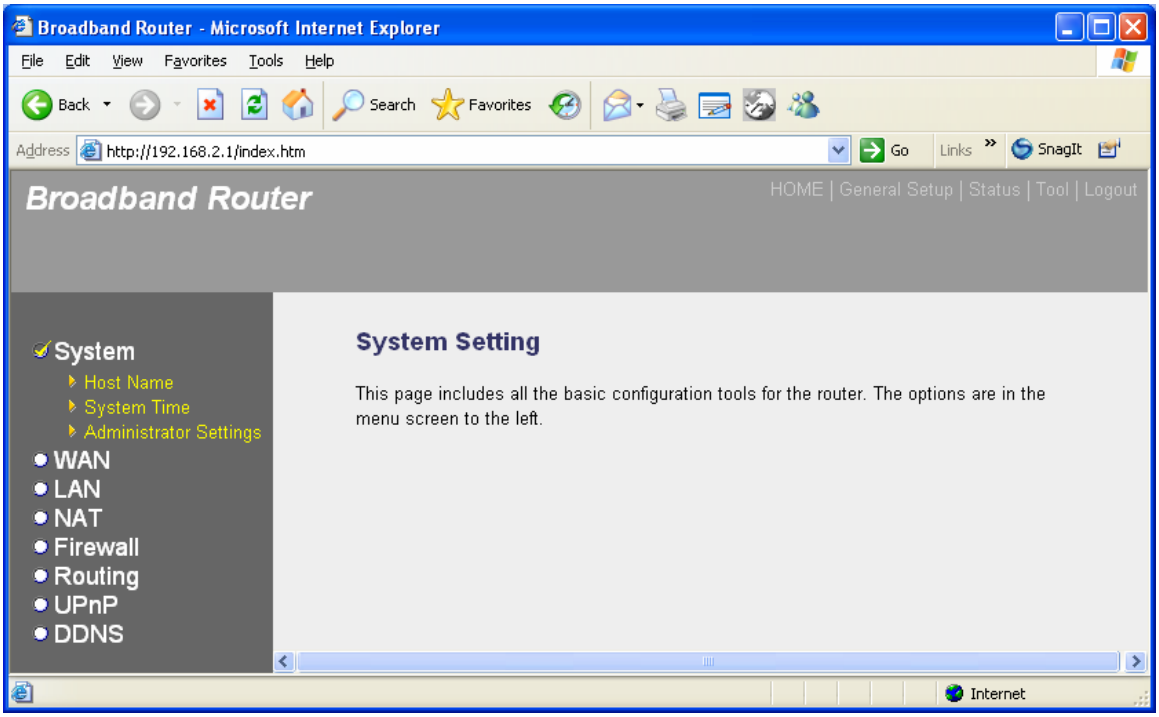
Menu	Description
2.1 System	This section allows you to set the Broadband router's system Time Zone, Password and Remote Management Administrator.
2.2 WAN	This section allows you to select the connection method in order to establish a connection with your ISP (same as the Quick Setup Wizard section)

2.3 LAN	You can specify the LAN segment's IP address, subnet Mask, enable/disable DHCP and select an IP range for your LAN
2.4 NAT	You can configure the Port Forwarding, Virtual Server, DMZ and Special Applications functions in this section. This allows you to specify what user/packet can pass your router's NAT.
2.5 Firewall	The Firewall section allows you to configure Client Filtering, URL Filtering, MAC Control and Hacker Prevention.
2.6 Routing	The Routing section allows you to configure the static routing table and dynamic routing.
2.7 UPnP	The UPnP section allows you to configure UPnP parameters and lookup the port mapping.
2.8 DDNS	The DDNS section allows you to configure DDNS service.

Select one of the above eight General Setup selections and proceed to the manual's relevant sub-section

2.1 System

The system screen allows you to specify a time zone, to change the system password and to specify a remote management user for the broadband router.

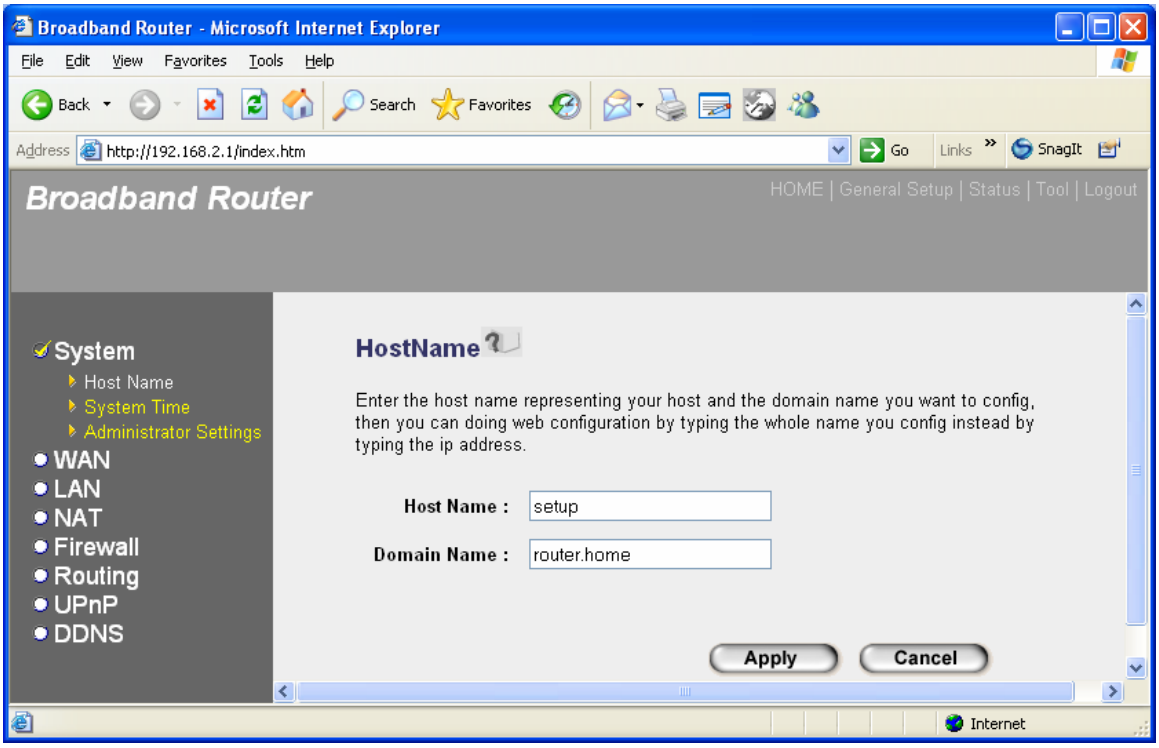


Parameters	Description
System Settings	
2.1.1 Host Name	Allows you to setup the Host Name and Domain Name of this router.
2.1.2 System Time	Select the time zone of the country you are currently in. The router will set its time based on your selection.
2.1.3 Administrator Settings	Allows you to select a password in order to access the web-based management website. You can specify a Host IP address that can perform remote management functions.

Select one of the above three system settings selections and proceed to the manual's relevant sub-section

2.1.1 Host Name

This page allows you to assign Host Name and Domain Name to the router. You can do web configuration from the LAN by typing the whole name you configured here except for the IP address.

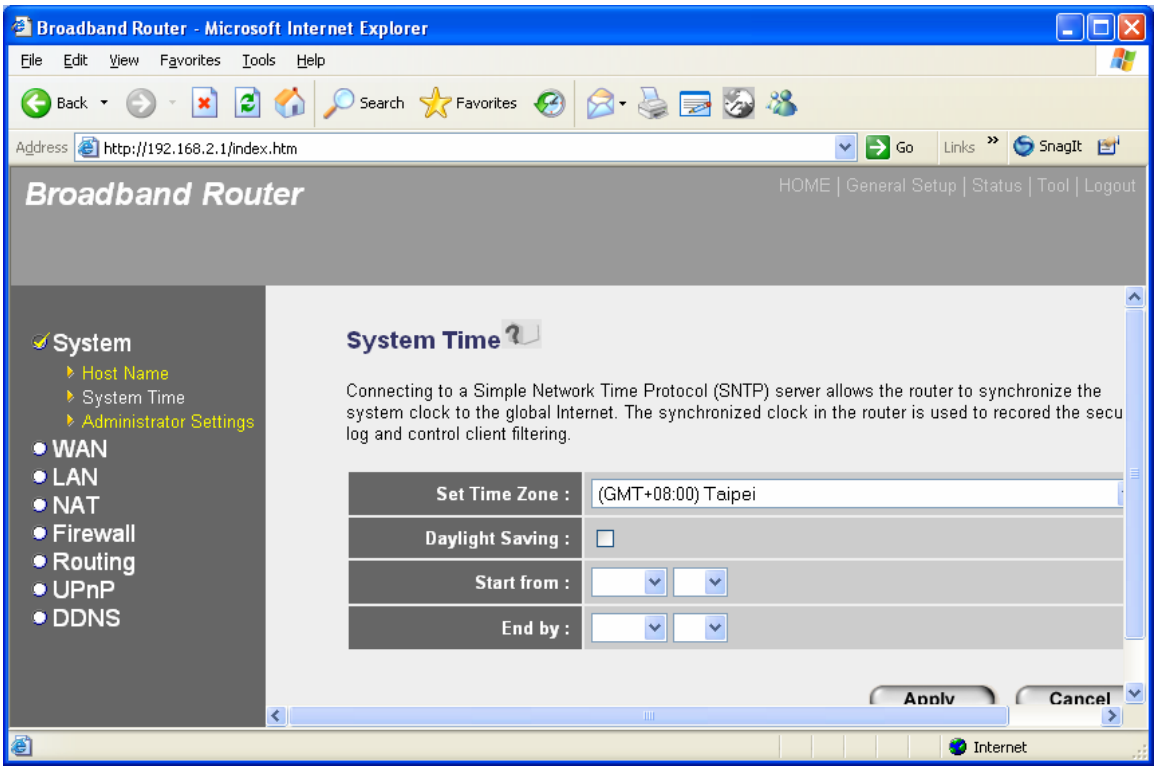


Parameter	Description
Host Name	Enter the Host Name of this router.
Domain Name	Enter the Domain Name of this router.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.1.2 System Time

The System Time allows your router to reference or base its time on the Time Zone settings configured here, which will affect functions such as Log entries and Firewall settings.

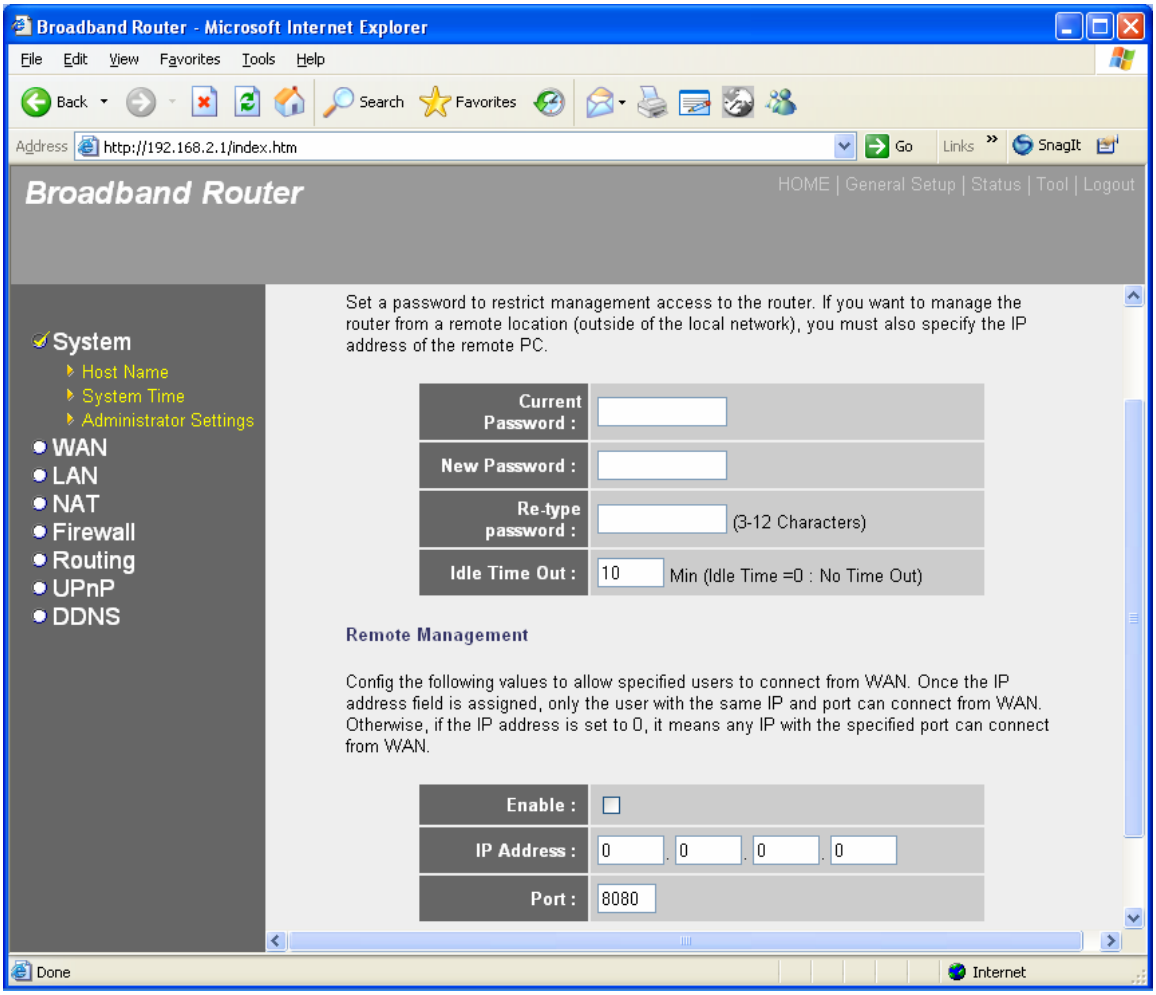


Parameter	Description
Set Time Zone	Select the time zone of the country you are currently in. The router will set its time based on your selection.
Enable Daylight Savings	The router can also take Daylight savings into account. If you wish to use this function, you must check/tick the enable box to enable your daylight saving configuration (below).
Start from	Select the period in which you wish to start daylight Savings Time
End by	Select the period in which you wish to end daylight Savings Time

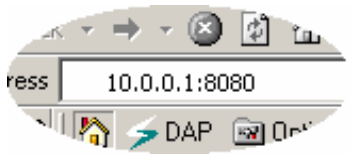
Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.1.3 Administrator Settings

You can change the password required to log into the broadband router's system web-based management. By default, there is no password. So please assign a password to the Administrator as soon as possible, and store it in a safe place. Passwords can contain 3 to 12 alphanumeric characters, and are case sensitive. The remote management function allows you to designate a host in the Internet the ability to configure the Broadband router from a remote site. Enter the designated host IP Address in the Host IP Address field.


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
System
Host Name
System Time
Administrator Settings
WAN
LAN
NAT
Firewall
Routing
UPnP
DDNS
Set a password to restrict management access to the router. If you want to manage the router from a remote location (outside of the local network), you must also specify the IP address of the remote PC.
Current Password :
New Password :
Re-type password :
(3-12 Characters)
Idle Time Out :
10
Min (Idle Time =0 : No Time Out)
Remote Management
Config the following values to allow specified users to connect from WAN. Once the IP address field is assigned, only the user with the same IP and port can connect from WAN. Otherwise, if the IP address is set to 0, it means any IP with the specified port can connect from WAN.
Enable :
IP Address :
0 . 0 . 0 . 0
Port :
8080
Done
Internet

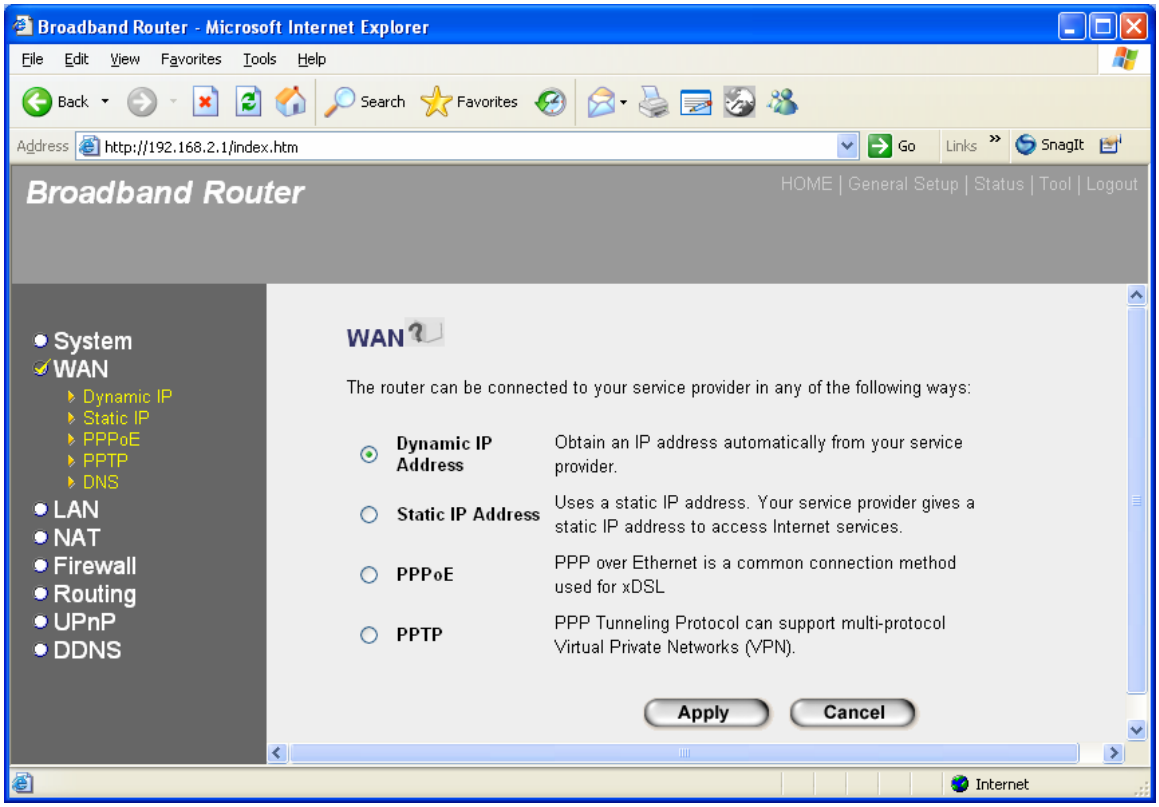
Parameters	Description
Current Password	Enter your current password for the remote management administrator to login to your Broadband router. Note: By default there is NO password
New Password	Enter your new password
Confirmed Password	Enter your new password again for verification purposes **Note**: If you forget your password, you'll have to reset the router to the factory default (No password) with the reset button (see router's back panel)

Idle Time Out	Enter the Max Idle Time (in minutes) allowed after login to the web configuration. If you idle long then this time, the router will force to close the login session and you have to login again if you want to continue doing further configuration. If you assign “0” for this value, there will be no time out.
Enable	Check “Enable” to enable the remote management function.
IP Address	This is the IP address of the host in the Internet that will have management/configuration access to the Broadband router from a remote site. This means if you are at home and your home IP address has been designated the Remote Management host IP address for this router (located in your company office), then you are able to configure this router from your home. If the IP Address is left **0.0.0.0** this means anyone can access the router’s web-based configuration from a remote location, providing they know the password. Click the **Enable** box to enable the Remote Management function. **Note**: When you want to access the web-based management from a remote site, you must enter the router’s WAN IP address (e.g. 10.0.0.1) into your web-browser followed by port number 8080, e.g. 10.0.0.1:8080 (see below). You’ll also need to know the password set in the Password Setting screen in order to access the router’s web-based management. 
Port	The port number of remote management web interface.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.2 WAN

Use the WAN Settings screen if you have already configured the Quick Setup Wizard section and you would like to change your Internet connection type. The WAN Settings screen allows you to specify the type of WAN port connect you want to establish with your ISP. The WAN settings offer the following selections for the router's WAN port, **Dynamic IP**, **Static IP, PPPoE**, **PPTP** and **DNS**.

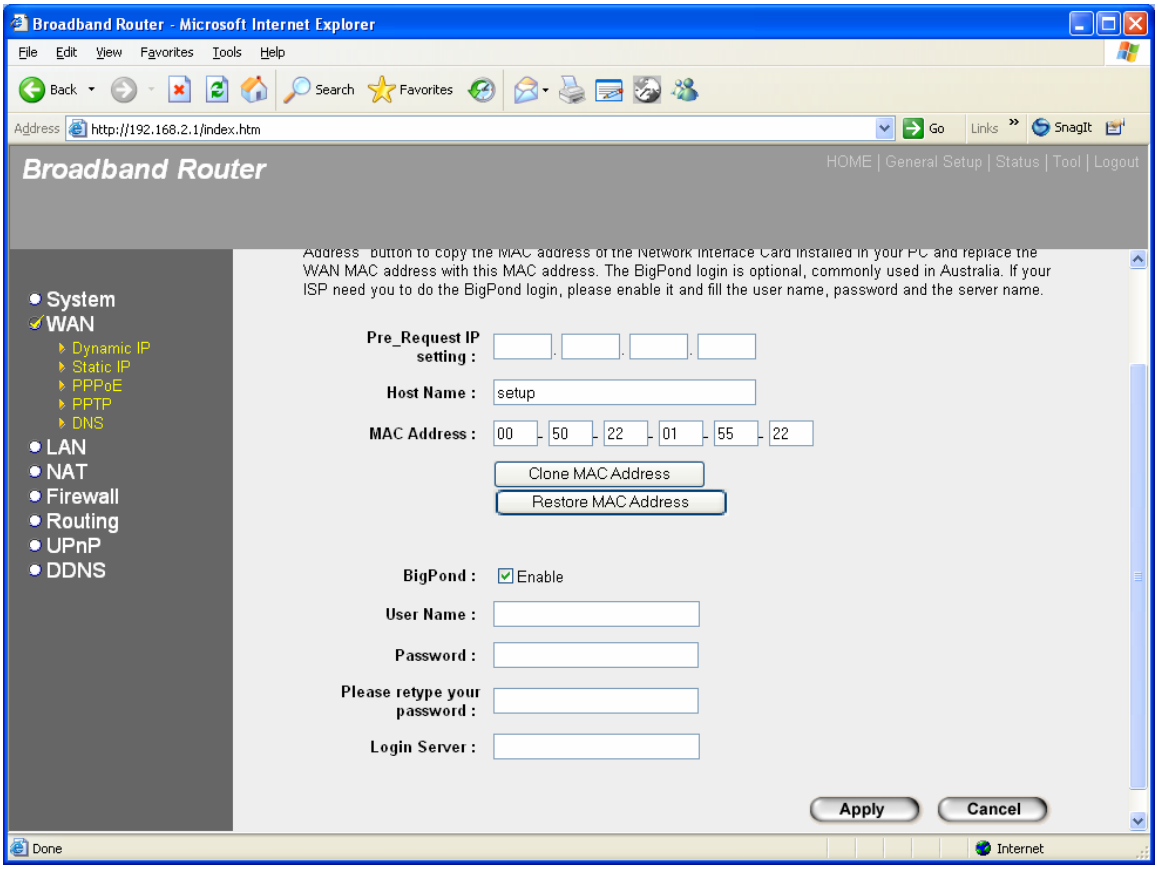


Parameters	Description
2.2.1 Dynamic IP	Your ISP will automatically give you an IP address
2.2.2 Static IP address	Your ISP has given you an IP address already
2.2.3 PPPoE	Your ISP requires PPPoE connection.
2.2.4 PPTP	Your ISP requires you to use a Point-to-Point Tunneling Protocol (PPTP) connection.
2.2.5 DNS	You can specify a DNS server that you wish to use.

Once you have made a selection, click <**More Configuration>** at the bottom of the screen and proceed to the manual's relevant sub-section

2.2.1 Dynamic IP

Choose the Dynamic IP selection if your ISP will automatically give you an IP address. Some ISP's may also require that you fill in additional information such as Host Name, Domain Name and MAC address. The BigPond login is optional, commonly used in Australia. If your ISP need you to do the BigPond login, please enable it and fill the user name, password and the server name.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File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
Address" button to copy the MAC address of the Network Interface Card installed in your PC and replace the WAN MAC address with this MAC address. The BigPond login is optional, commonly used in Australia. If your ISP need you to do the BigPond login, please enable it and fill the user name, password and the server name.
System
WAN
Dynamic IP
Static IP
PPPoE
PPTP
DNS
LAN
NAT
Firewall
Routing
UPnP
DDNS
Pre_Request IP setting :
Host Name : setup
MAC Address : 00 - 50 - 22 - 01 - 55 - 22
Clone MAC Address
Restore MAC Address
BigPond : Enable
User Name :
Password :
Please retype your password :
Login Server :
Apply
Cancel
Done
Internet

Parameters	Description
Pre-Request IP	If your ISP requires a Pre-Request IP, type in the IP provided by your ISP, otherwise leave it blank if your ISP does not require a Pre-Request IP.
Host Name	If your ISP requires a Host Name, type in the host name provided by your ISP, otherwise leave it blank if your ISP does not require a Host Name.
MAC Address	Your ISP may require a particular MAC address in order for you to connect to the Internet. This MAC address is the PC's MAC address that your ISP had originally connected your Internet connection to. Type in this MAC address in this section or use the "**Clone MAC Address"** button to replace the WAN MAC address with the MAC address of that PC (you have to be using

	that PC for the Clone MAC Address button to work). To find out the PC's MAC address see Appendix A. (see Glossary for an explanation on MAC address)
BigPond	BigPond is commonly used in Australia. If your ISP need you to do the BigPond login, please enable it.
User Name	The user name required by BigPond login.
Password	The password required by BigPond login.
Login Server	The BigPond login server address.

Click <**OK>** when you have finished the configuration above. **Congratulations**! You have completed the configuration for the Cable Modem connection. You can start using the router now, if you wish to use some of the advance features supported by this router see chapter 2, 3, 4.

2.2.2 Static IP Address

Select Static IP address if your ISP has given you a specific IP address for you to use. Your ISP should provide all the information required in this section. (See chapter 1 "Fixed IP" for more detail)

2.2.3 PPPoE (PPP over Ethernet)

Select PPPoE if your ISP requires the PPPoE protocol to connect you to the Internet. Your ISP should provide all the information required in this section. (See chapter 1 "PPPoE" for more detail)

2.2.4 PPTP

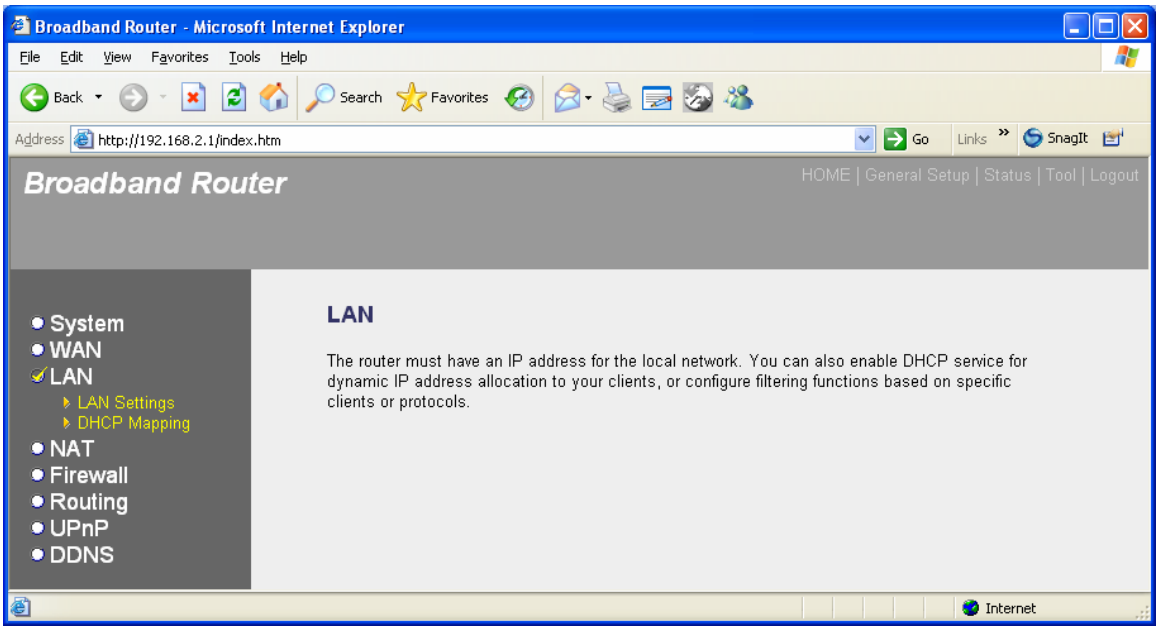
Select PPTP if your ISP requires the PPTP protocol to connect you to the Internet. Your ISP should provide all the information required in this section. (See chapter 1 "PPTP" for more detail)

2.2.5 DNS

A Domain Name System (DNS) server is like an index of IP addresses and Web addresses. If you type a Web address into your browser, such as www.router.com, a DNS server will find that name in its index and the matching IP address. Most ISPs provide a DNS server for speed and convenience. If your Service Provider connects you to the Internet with dynamic IP settings, it is likely that the DNS server IP address is provided automatically. However, if there is a DNS server that you would rather use, you need to specify the IP address of that DNS server here. (See chapter 1 Step 3 "DNS" for more detail)

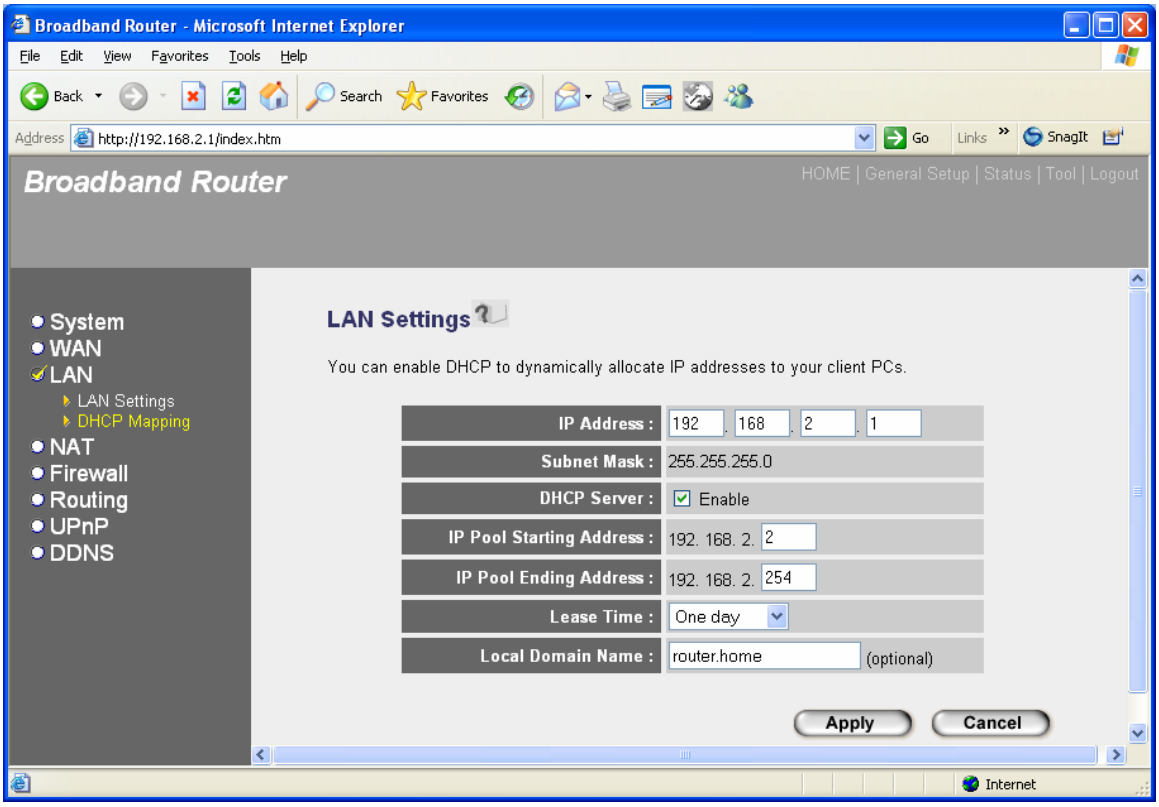
2.3 LAN

The LAN setting allows you to assign a private IP address for this router. You can also enable DHCP server to manage your IP automatically.


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
System
WAN
LAN
LAN Settings
DHCP Mapping
NAT
Firewall
Routing
UPnP
DDNS
LAN
The router must have an IP address for the local network. You can also enable DHCP service for dynamic IP address allocation to your clients, or configure filtering functions based on specific clients or protocols.
Internet

2.3.1 LAN Settings

The LAN Settings allow you to specify a private IP address for your router's LAN ports as well as a subnet mask for your LAN segment. You also can enable the DHCP server to let the router manage private IP addresses for you automatically.



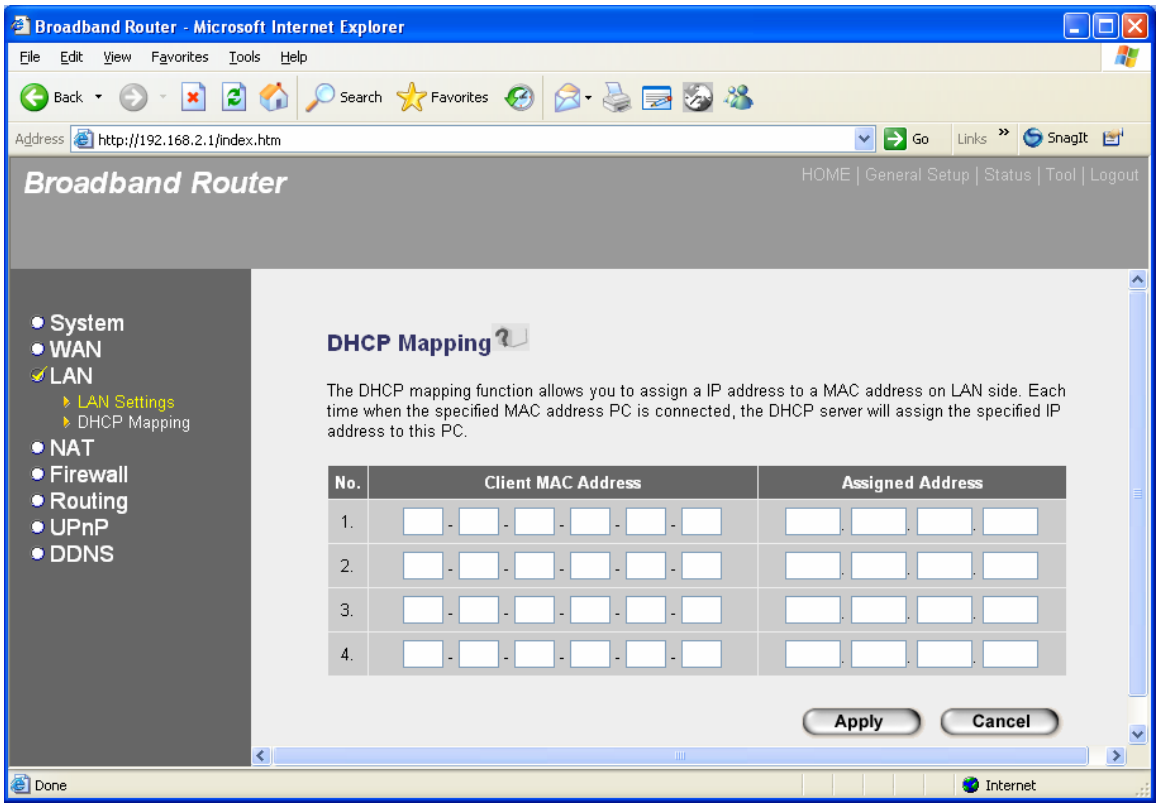
Parameters	Default	Description
IP address	192.168.2.1	This is the router's LAN port IP address (Your LAN clients default gateway IP address)
Subnet Mask	255.255.255.0	The Subnet Mask for your LAN segment is fixed as 255.255.255.0
DHCP Server	Enabled	You can enable or disable the DHCP server. By enabling the DHCP server the router will automatically give your LAN clients an IP address. If the DHCP is not enabled then you'll have to manually set your LAN client's IP addresses; make sure the LAN Client is in the same subnet as this broadband router if you want the router to be your LAN client's default gateway

Lease Time	The DHCP when enabled will temporarily give your LAN clients an IP address. In the Lease Time setting you can specify the time period that the DHCP lends an IP address to your LAN clients. The DHCP will change your LAN client's IP address when this time threshold period is reached
IP Address Pool	You can select a particular IP address range for your DHCP server to issue IP addresses to your LAN Clients. **Note:** By default the IP range is from: Start IP **192.168.2.100** to End IP **192.168.2.199**. If you want your PC to have a static/fixed IP address then you'll have to choose an IP address outside this IP address Pool
Lease Time	The DHCP when enabled will temporarily give your LAN clients an IP address. In the Lease Time setting you can specify the time period that the DHCP lends an IP address to your LAN clients. The DHCP will change your LAN client's IP address when this time threshold period is reached
Local Domain Name	You can specify a Domain Name for your LAN

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.3.2 DHCP Mapping

The DHCP Mapping allows you to manually assign the client MAC address and IP address mapping and let the clients in the list get the same IP address every time.

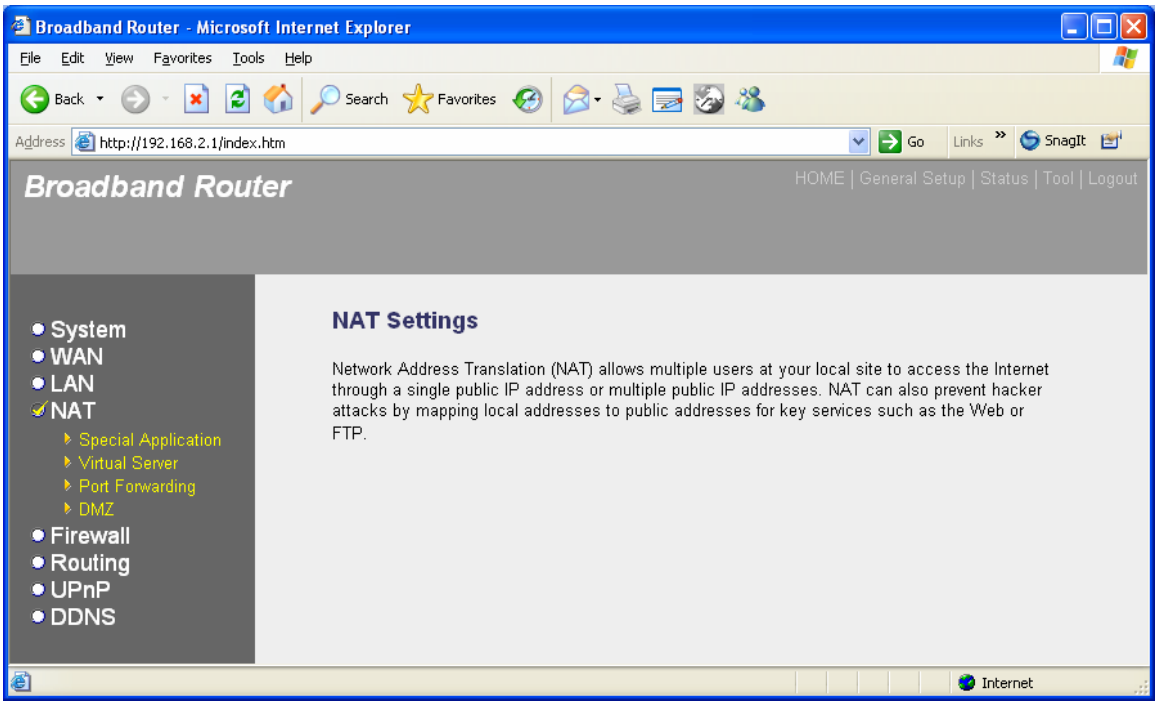


Parameters	Description
Client MAC Address	The MAC Address of the client.
Assigned Address	The IP Address that will be assigned to the client.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.4 NAT

Network Address Translation (NAT) allows multiple users at your local site to access the Internet through a single Public IP Address or multiple Public IP Addresses. NAT provides Firewall protection from hacker attacks and has the flexibility to allow you to map Private IP Addresses to Public IP Addresses for key services such as Websites and FTP.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Address http://192.168.2.1/index.htm
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Broadband Router
HOME | General Setup | Status | Tool | Logout
System
WAN
LAN
NAT
Special Application
Virtual Server
Port Forwarding
DMZ
Firewall
Routing
UPnP
DDNS
NAT Settings
Network Address Translation (NAT) allows multiple users at your local site to access the Internet through a single public IP address or multiple public IP addresses. NAT can also prevent hacker attacks by mapping local addresses to public addresses for key services such as the Web or FTP.
Internet

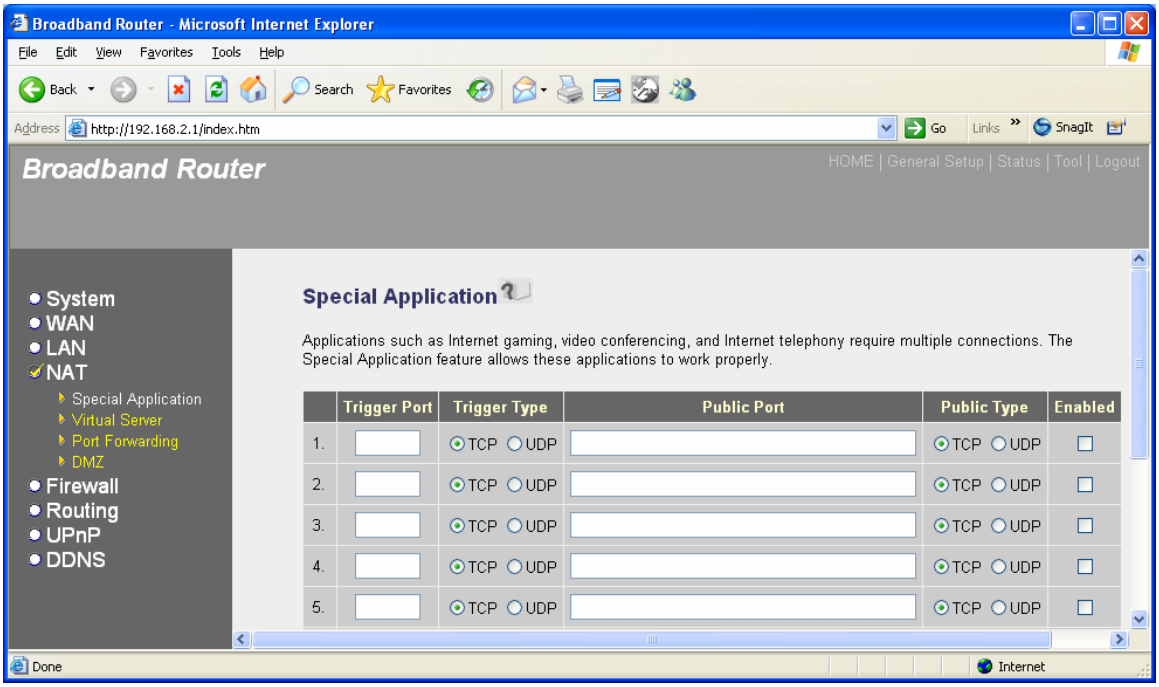
Parameter	Description
2.4.1 Special Application	Some applications require multiple connections, such as Internet games, video conferencing, Internet telephony and others. In this section you can configure the router to support these types of applications.
2.4.2 Virtual Server	You can have different services (e.g. email, FTP, Web etc.) going to different service servers/clients in your LAN. The Virtual Server allows you to re-direct a particular service port number (from the Internet/WAN Port) to a particular LAN IP address and its service port number.
2.4.3 Port Forwarding	You can have different services (e.g. email, FTP, Web etc.) going to different service servers/clients in your LAN. The Port Forwarding allows you to re-direct a particular range of service port numbers (from the Internet/WAN Ports) to a particular LAN IP address.

2.4.4 DMZ	The DMZ function allows you to re-direct all packets going to your WAN port IP address to a particular IP address in your LAN.

Click on one of the three NAT selections and proceed to the manual's relevant sub-section.

2.4.1 Special Application

Some applications require multiple connections, such as Internet games, video conferencing, Internet telephony and others. In this section you can configure the router to support multiple connections for these types of applications.



Parameters	Description
Trigger Port	This is the out going (Outbound) port number for this particular application
Trigger Type	Select whether the outbound port protocol is “TCP” or “UDP”.
Public Port	Enter the In-coming (Inbound) port or port range for this type of application (e.g. 2300-2400, 47624) **Note**: Individual port numbers are separated by a comma (e.g. 47624, 5775, 6541 etc.). To input a port range use a “dash” to separate the two port number range (e.g. 2300-2400)
Public Type	Select the Inbound port protocol type: “TCP” or “UDP”.
Enabled	You have to check this box to enable this rule.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

Example: Special Applications
If you need to run applications that require multiple connections, then specify the port (outbound) normally associated with that application in the "Trigger Port" field. Then select the protocol type (TCP or UDP) and enter the public ports associated with the trigger port to open them up for inbound traffic.

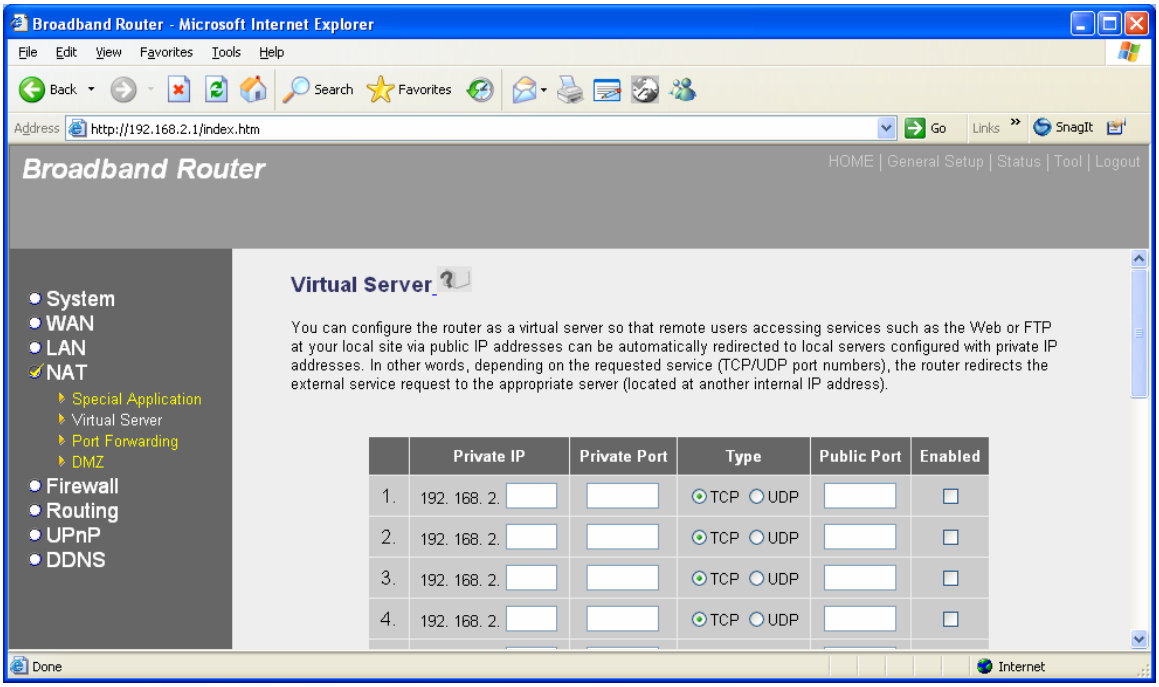
Example:

ID	Trigger Port	Trigger Type	Public Port	Public Type	Comment
1	28800	UDP	2300-2400, 47624	TCP	MSN Game Zone
2	6112	UDP	6112	UDP	Battle.net

In the example above, when a user trigger's port 28800 (outbound) for MSN Game Zone then the router will allow incoming packets for ports 2300-2400 and 47624 to be directed to that user.
Note: Only one LAN client can use a particular special application at a time.

2.4.2 Virtual Server

Use the Virtual Server function when you want different servers/clients in your LAN to handle different service/Internet application type (e.g. Email, FTP, Web server etc.) from the Internet. Computers use numbers called port numbers to recognize a particular service/Internet application type. The Virtual Server allows you to re-direct a particular service port number (from the Internet/WAN Port) to a particular LAN private IP address and its service port number. (See Glossary for an explanation on Port number)


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
System
WAN
LAN
NAT
Special Application
Virtual Server
Port Forwarding
DMZ
Firewall
Routing
UPnP
DDNS
Virtual Server
You can configure the router as a virtual server so that remote users accessing services such as the Web or FTP at your local site via public IP addresses can be automatically redirected to local servers configured with private IP addresses. In other words, depending on the requested service (TCP/UDP port numbers), the router redirects the external service request to the appropriate server (located at another internal IP address).
Private IP
Private Port
Type
Public Port
Enabled
1. 192. 168. 2.
2. 192. 168. 2.
3. 192. 168. 2.
4. 192. 168. 2.
TCP UDP
Done
Internet

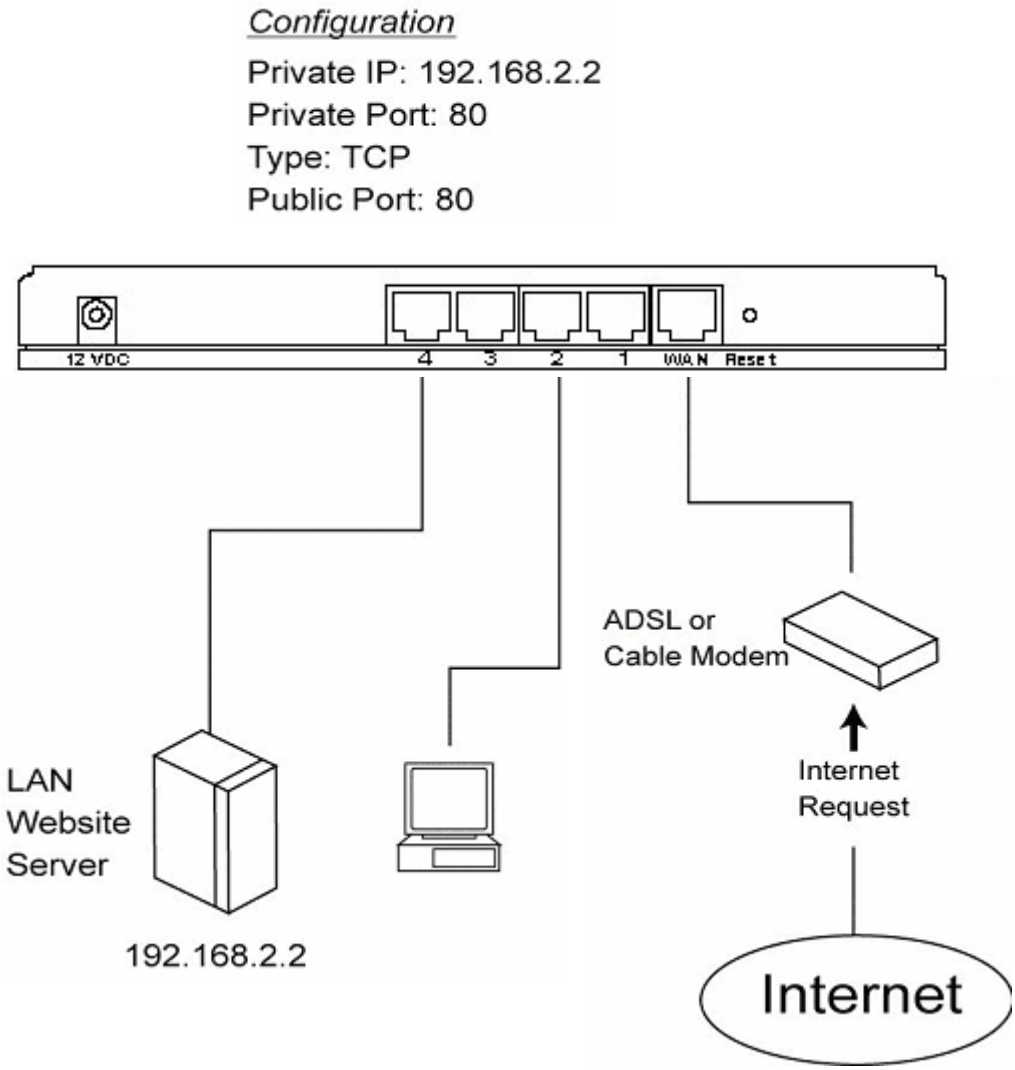
Parameters	Description
Private IP	This is the LAN client/host IP address that the Public Port number packet will be sent to. **Note:** You need to give your LAN PC clients a fixed/static IP address for Virtual Server to work properly.
Private Port	This is the port number (of the above Private IP host) that the below Public Port number will be changed to when the packet enters your LAN (to the LAN Server/Client IP)
Type	Select the port number protocol type (TCP or UDP).
Public Port	Enter the service (service/Internet application) port number from the Internet that will be re-directed to the above Private IP address host in your LAN **Note**: Virtual Server function will have priority over the DMZ function if there is a conflict between the Virtual Server and the DMZ settings.

Enabled	You have to check this box to enable this rule.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

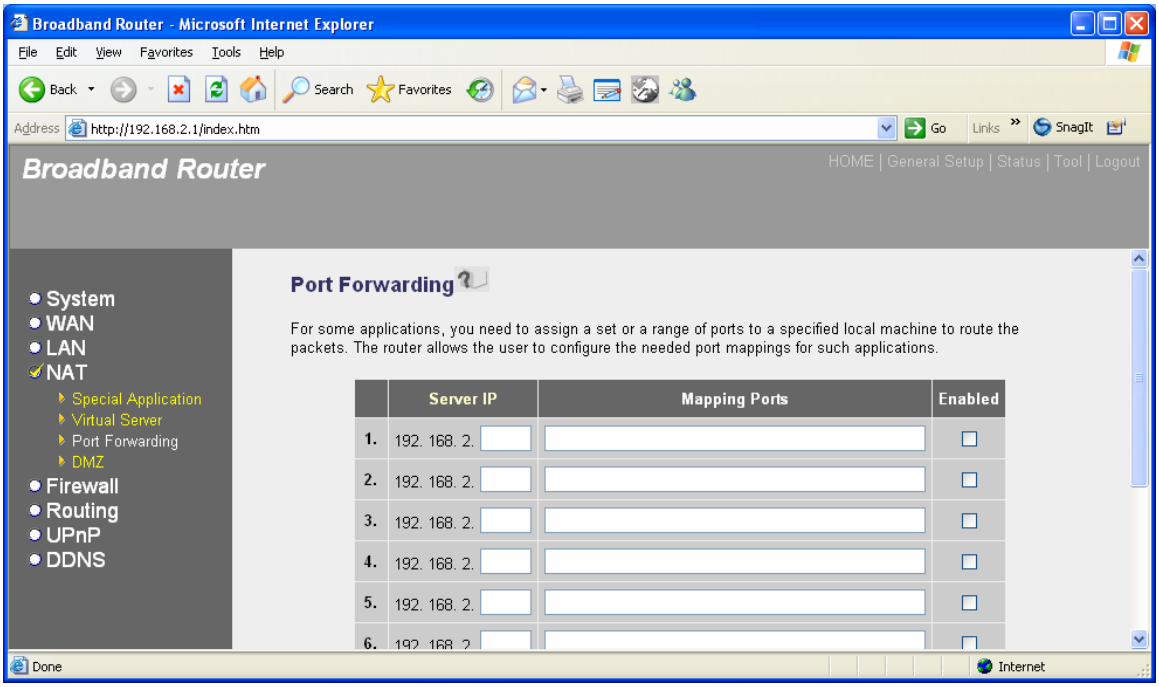
Example: Virtual Server

The diagram below demonstrates one of the ways you can use the Virtual Server function. Use the Virtual Server when you want the web server located in your private LAN to be accessible to Internet users. The configuration below means that any request coming form the Internet to access your web server will be translated to your LAN's web server (192.168.2.2). **Note:** For the virtual server to work properly Internet/remote users must know your global IP address. (For websites you will need to have a fixed/static global/public IP address)



2.4.3 Port Forwarding

The Port Forwarding allows you to re-direct a particular range of service port numbers (from the Internet/WAN Ports) to a particular LAN IP address. It helps you to host some servers behind the router NAT firewall.

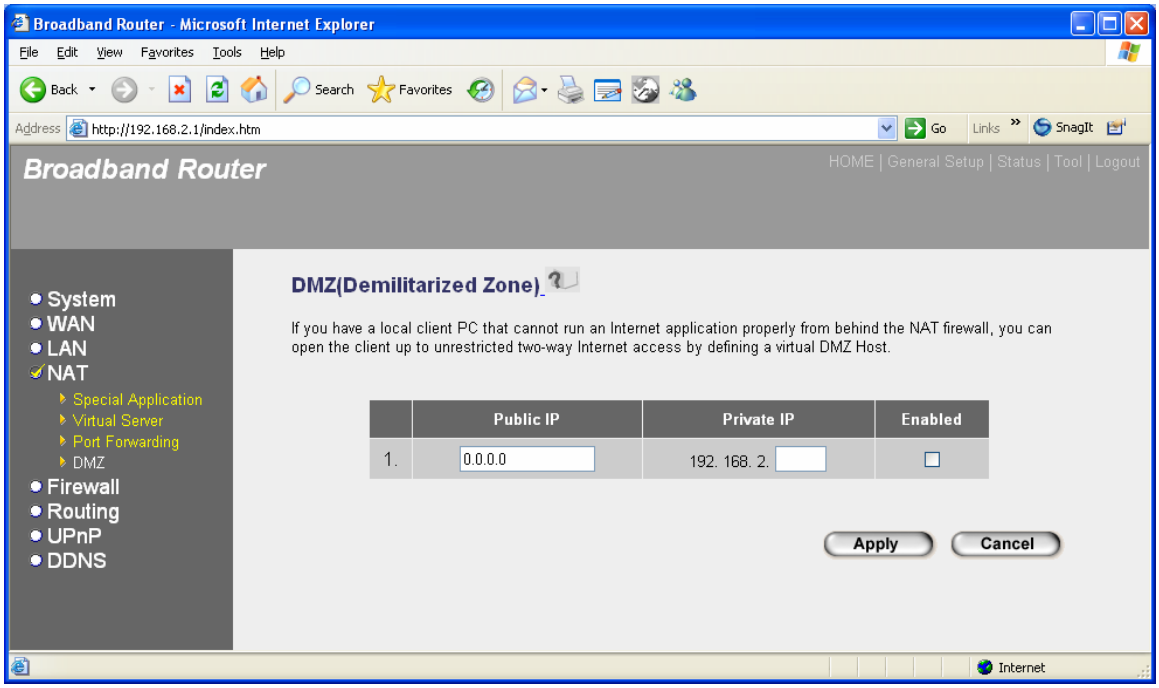


Parameter	Description
Server IP	This is the private IP of the server behind the NAT firewall. **Note:** You need to give your LAN PC clients a fixed/static IP address for Port Forwarding to work properly.
Mapping Ports	The range of ports to be forward to the private IP. (e.g. 2300-2400, 47624) **Note**: Individual port numbers are separated by a comma e.g. 47624, 5775, 6541 etc.). To input a port range use a "dash" to separate the two port number range (e.g. 2300-2400)
Enabled	You have to check this box to enable this rule.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.4.4 DMZ

If you have a local client PC that cannot run an Internet application (e.g. Games) properly from behind the NAT firewall, then you can open the client up to unrestricted two-way Internet access by defining a DMZ Host. The DMZ function allows you to re-direct all packets going to your WAN port IP address to a particular IP address in your LAN. The difference between the virtual server and the DMZ function is that the virtual server re-directs a particular service/Internet application (e.g. FTP, websites) to a particular LAN client/server, whereas DMZ re-directs all packets (regardless of services) going to your WAN IP address to a particular LAN client/server.



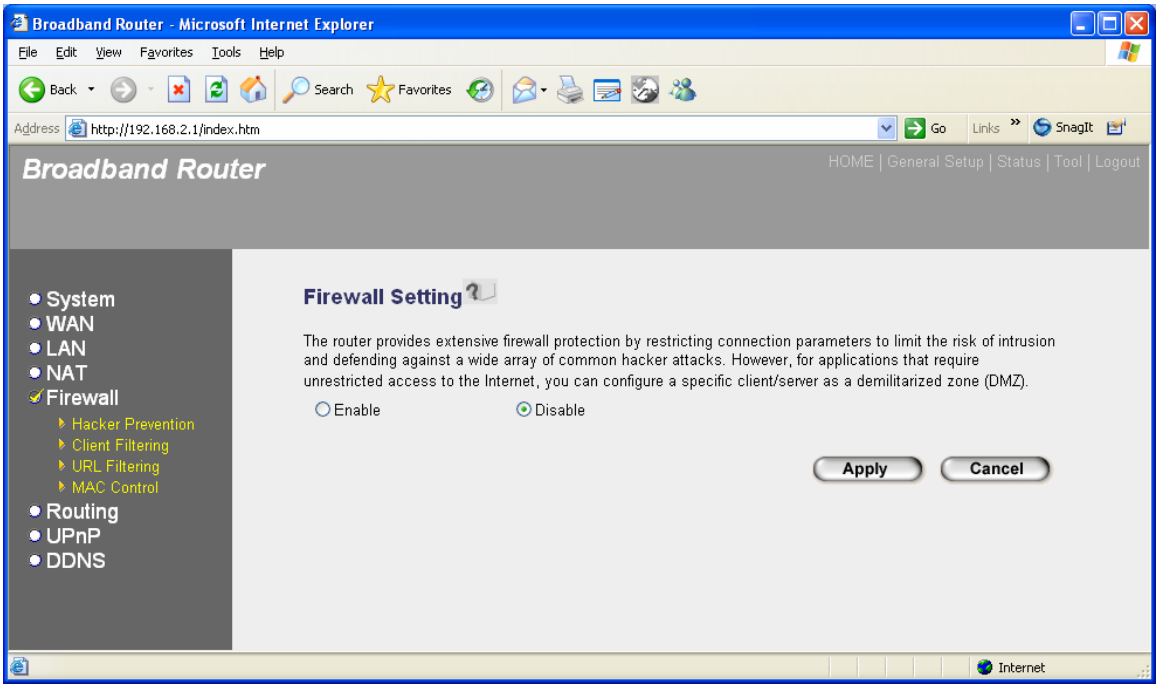
Parameters	Description
Enable	You have to check this box to enable the DMZ function. **Note**: If there is a conflict between the Virtual Server and the DMZ setting, then Virtual Server function will have priority over the DMZ function.
Public IP	The WAN IP address that a particular DMZ host in your LAN will be mapped to.
Private IP	Input the IP address of a particular host in your LAN that will receive all the packets originally going to the WAN port/Public IP address above. **Note:** You need to give your LAN PC clients a fixed/static IP address for DMZ to work properly.

You can now configure other advance sections or start using the router (with the advance settings in place)

2.5 Firewall

The Broadband router provides extensive firewall protection by restricting connection parameters, thus limiting the risk of hacker attack, and defending against a wide array of common Internet attacks.

Note: To enable the Firewall settings select **Enable** and click **Apply**

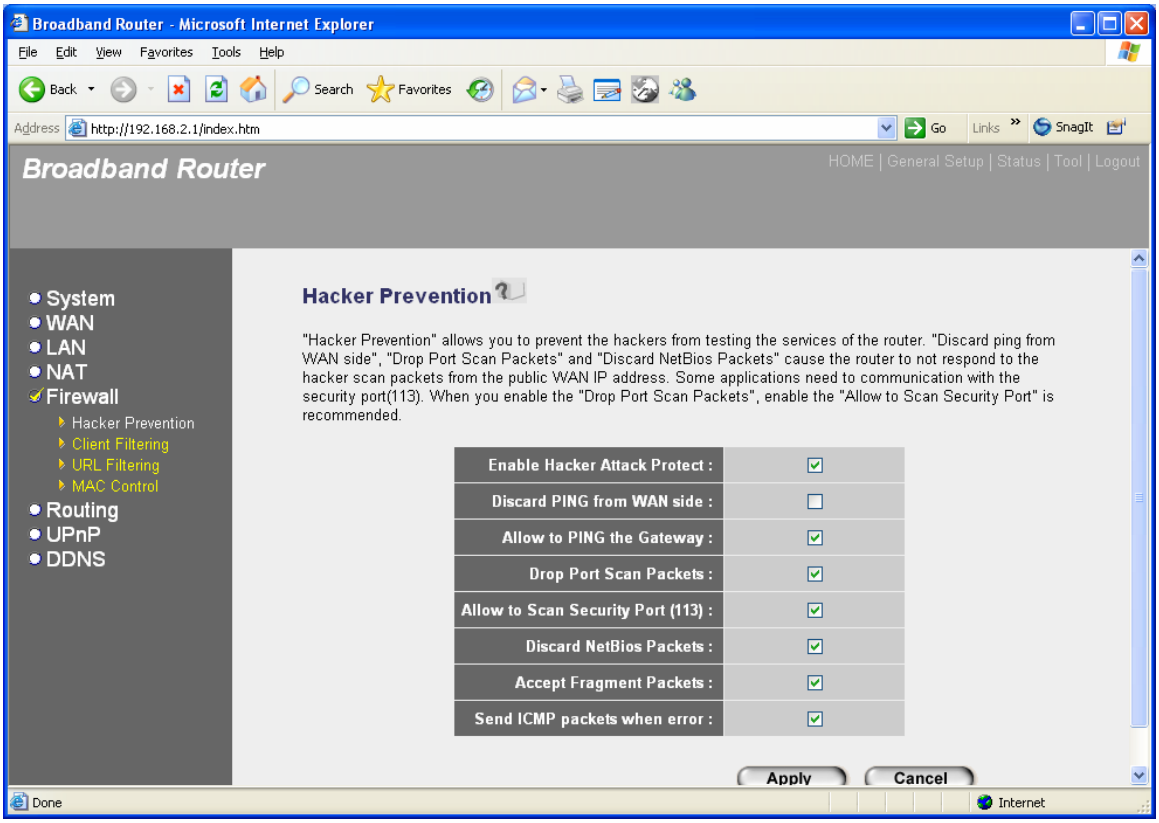


Parameters	Description
2.5.1 Hacker Prevention	The Broadband router's firewall can block common hacker attacks.
2.5.2 Client Filtering	Client Filtering allows you to specify which hosts users can or cannot have access to certain Internet applications
2.5.3 URL Filtering	URL Filtering allows you to specify which URLs can not be accessed by users.
2.5.4 MAC Control	MAC Control allows you to specify which MAC addresses can or cannot have access to Internet.

Click on one of the firewall selections and proceed to the manual's relevant sub-section

2.5.1 Hacker Prevention

The Broadband router's firewall can block common hacker attacks, including Denial of Service, Ping of Death, Port Scan and Sync Flood. If Internet attacks occur the router can log the events.


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
System
WAN
LAN
NAT
Firewall
Hacker Prevention
Client Filtering
URL Filtering
MAC Control
Routing
UPnP
DDNS
Hacker Prevention
"Hacker Prevention" allows you to prevent the hackers from testing the services of the router. "Discard ping from WAN side", "Drop Port Scan Packets" and "Discard NetBios Packets" cause the router to not respond to the hacker scan packets from the public WAN IP address. Some applications need to communication with the security port(113). When you enable the "Drop Port Scan Packets", enable the "Allow to Scan Security Port" is recommended.
Enable Hacker Attack Protect :
Discard PING from WAN side :
Allow to PING the Gateway :
Drop Port Scan Packets :
Allow to Scan Security Port (113) :
Discard NetBios Packets :
Accept Fragment Packets :
Send ICMP packets when error :
Apply
Cancel
Done
Internet

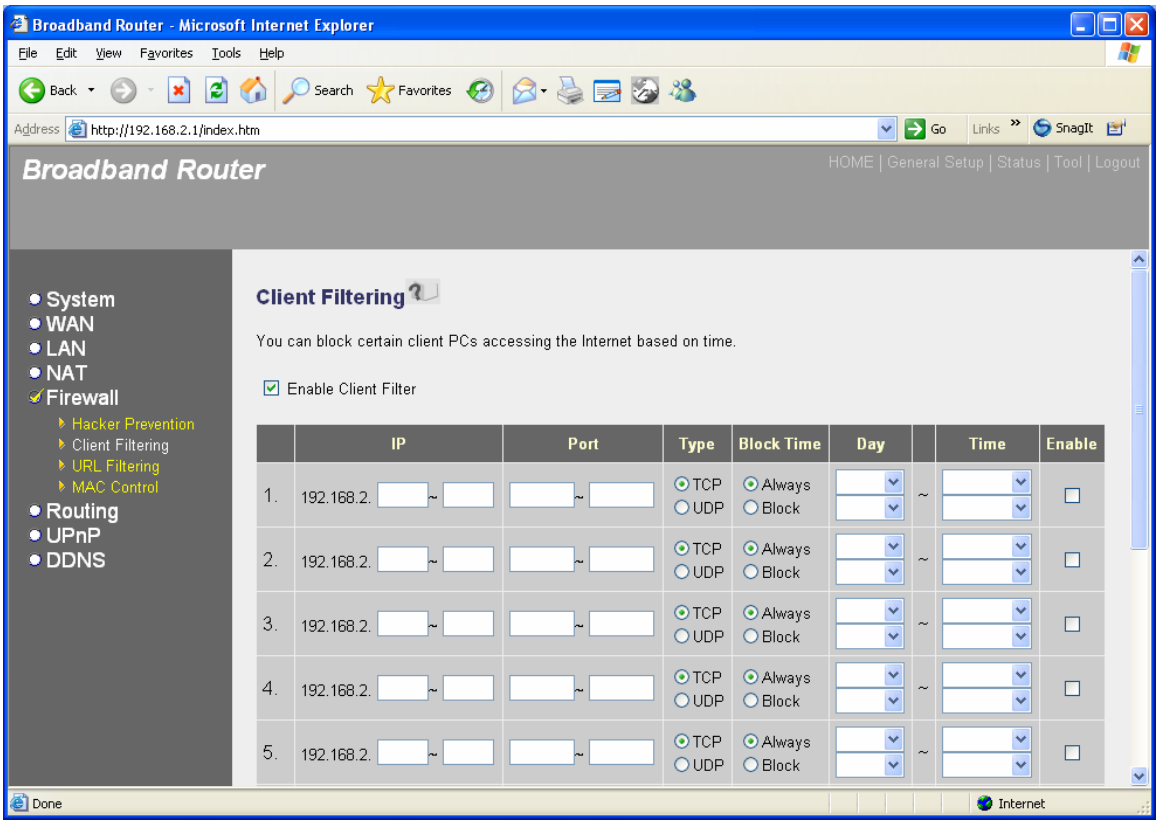
Parameters	Description
Enable Hacker Attack Protect	Check this box to enable the hacker DoS attacks.
Discard PING from WAN side	Check this box to discard PING packets come from the WAN side.
Allow to PING the Gateway	Check this box to let the router's WAN port will not respond to any Ping requests
Drop Port Scan Packets	Check this box to protect the router from Port Scan.
Allow to Scan Security Port	Check this box to allow client scan security port 113.
Discard NetBIOS Packets	Check this box to discard NetBIOS packets from passing through this router.

Accept Fragment Packets	Check this box to accept fragment packets.
Send ICMP Packets When Error	Check this box to enable sending ICMP packets when an error occurs.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.5.2 Client Filtering

If you want to restrict users from accessing certain Internet applications/services (e.g. Internet websites, email, FTP etc.), then this is the place to set that configuration. Client Filtering allows users to define the traffic type permitted in your LAN. You can control which PC client can have access to these services.



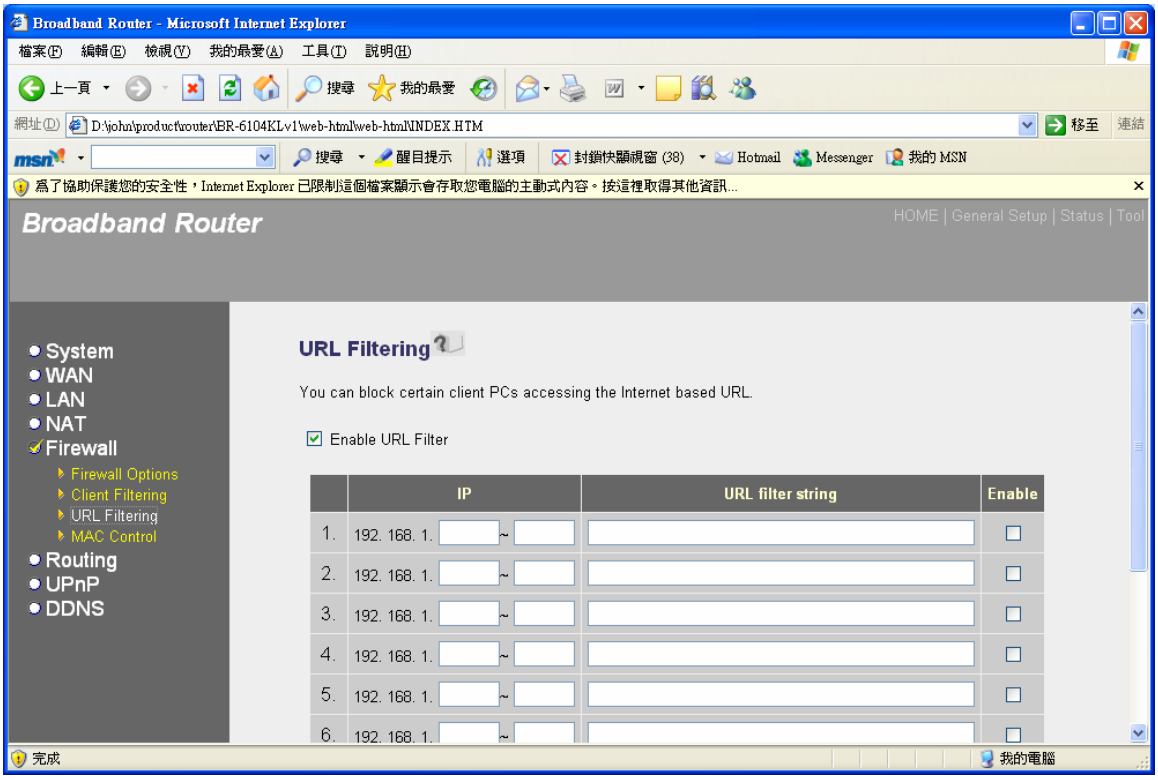
Parameters	Description
Enable Client Filter	Check this box to enable Client Filtering function.
IP	Enter the client IP range that you want to filter.
Port	Enter the port range of services that you want to restrict the clients to access.
Type	Select the protocol type of services that you want to restrict the clients to access.
Block Time	Select “Always” if you want to block the clients from accessing the services all the time. Select “Block” if you want to block the clients from

	accessing the services only during the assigned time period.
Day	Select the period of week day you want to apply this rule.
Time	Select the time period in a day you want to apply this rule.
Enable	Check this box to enable this rule.

You can now configure other advance sections or start using the router (with the advance settings in place)

2.5.3 URL Filtering

You can block access to some Web sites from particular PCs by entering a full URL address or just keyword of the Web site.

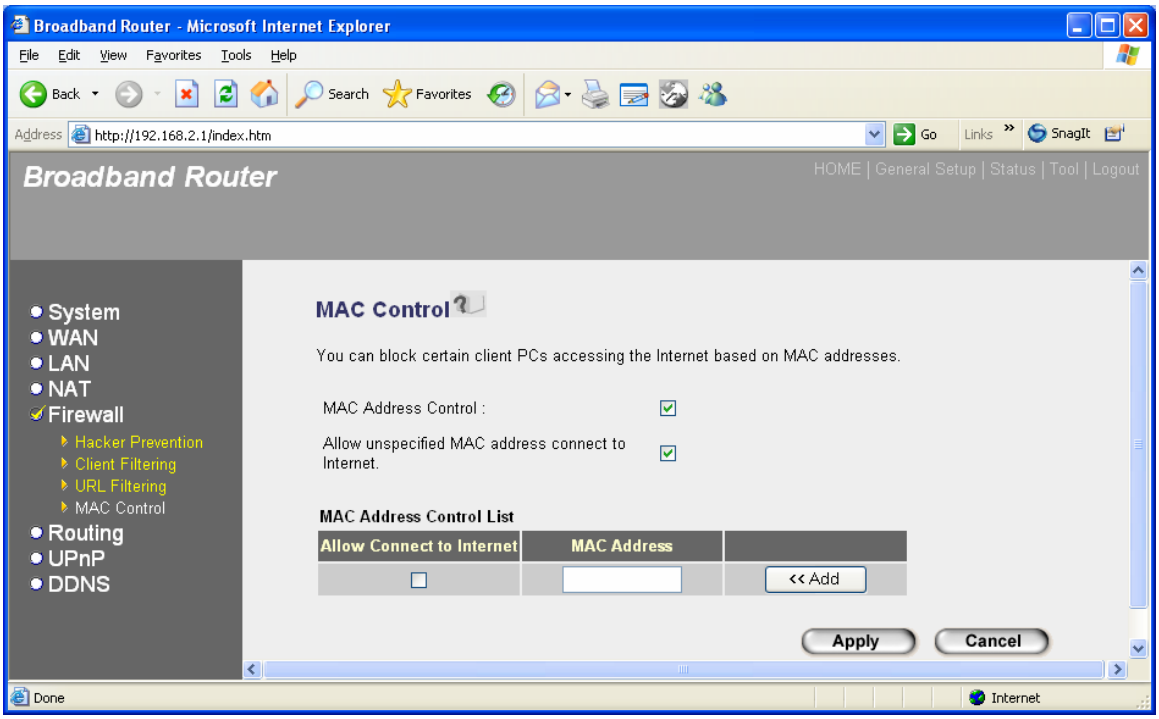


Parameters	Description
Enable URL Filtering	Check this box to enable the URL Filtering function.
IP	Enter the client IP address range that you want to block from accessing the URL with specified keyword.
URL filtering string	You can enter the full URL address or the keyword of the web site you want to block.
Enable	Check this box to enable this rule.

You can now configure other advance sections or start using the router (with the advance settings in place)

2.5.4 MAC Control

You can block certain client PCs from accessing the Internet by MAC addresses.

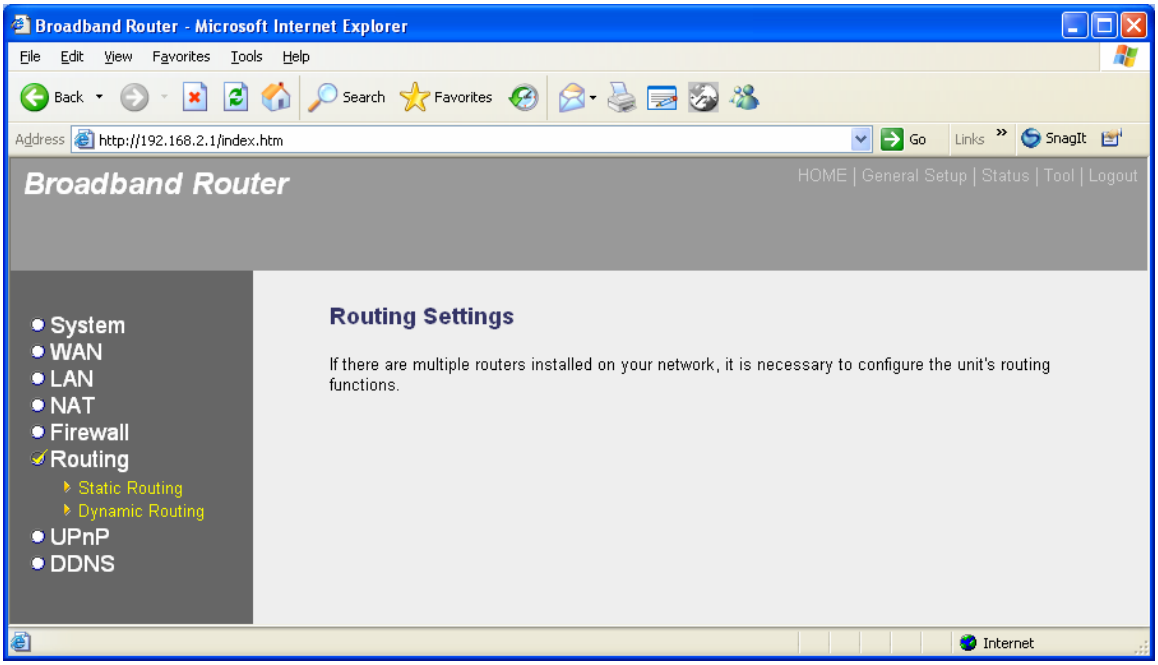


Parameters	Description
MAC Address Control	Check this box to enable MAC Address Control
Allow unspecified MAC address to connect to Internet	Check this box to allow unspecified MAC addresses to access Internet.
Allow Connect to Internet	Check this box to allow the specified MAC address to access Internet.
MAC address	MAC address of client PC that you want to block from accessing the Internet.
Add	Click “Add” to add this rule.
Delete	Click “Delete” to delete this rule.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.6 Routing

If you have multiple routers in your network by using static routing, you have to use these routing functions.

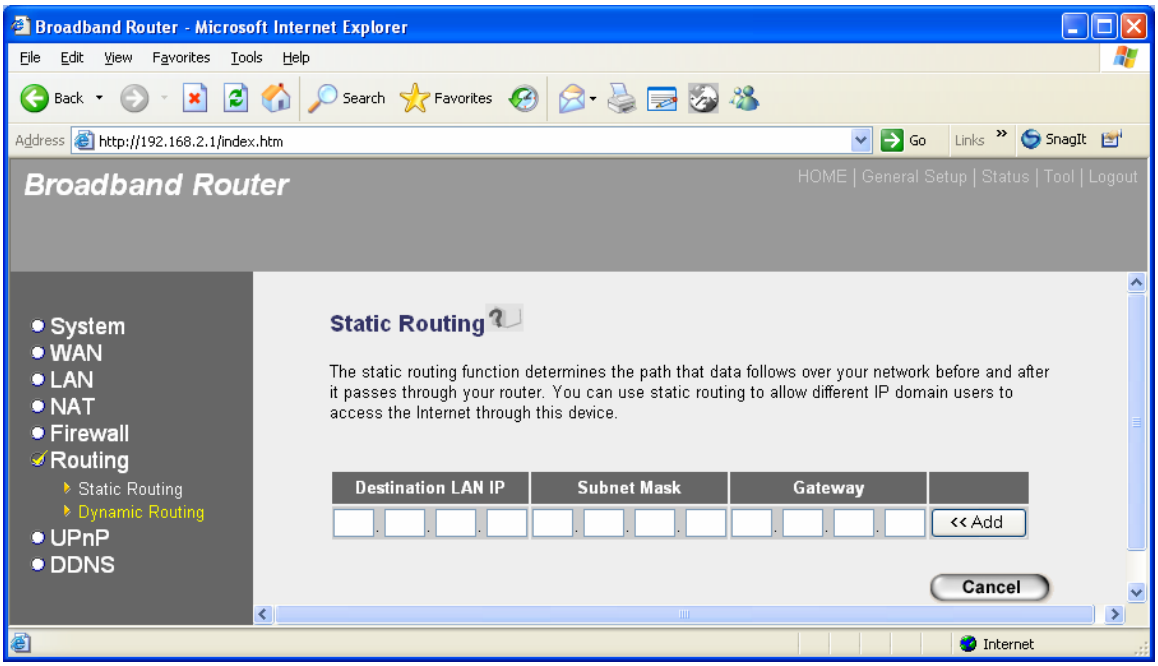


Parameters	Description
2.6.1 Static Routing	Allow you to configure the static routing table of this router.
2.6.2 Dynamic Routing	Allow you to select suitable dynamic routing protocol.

Click on one of the Routing selections and proceed to the manual's relevant sub-section

2.6.1 Static Routing

Static Routing allows you to configure the routing table of this router.

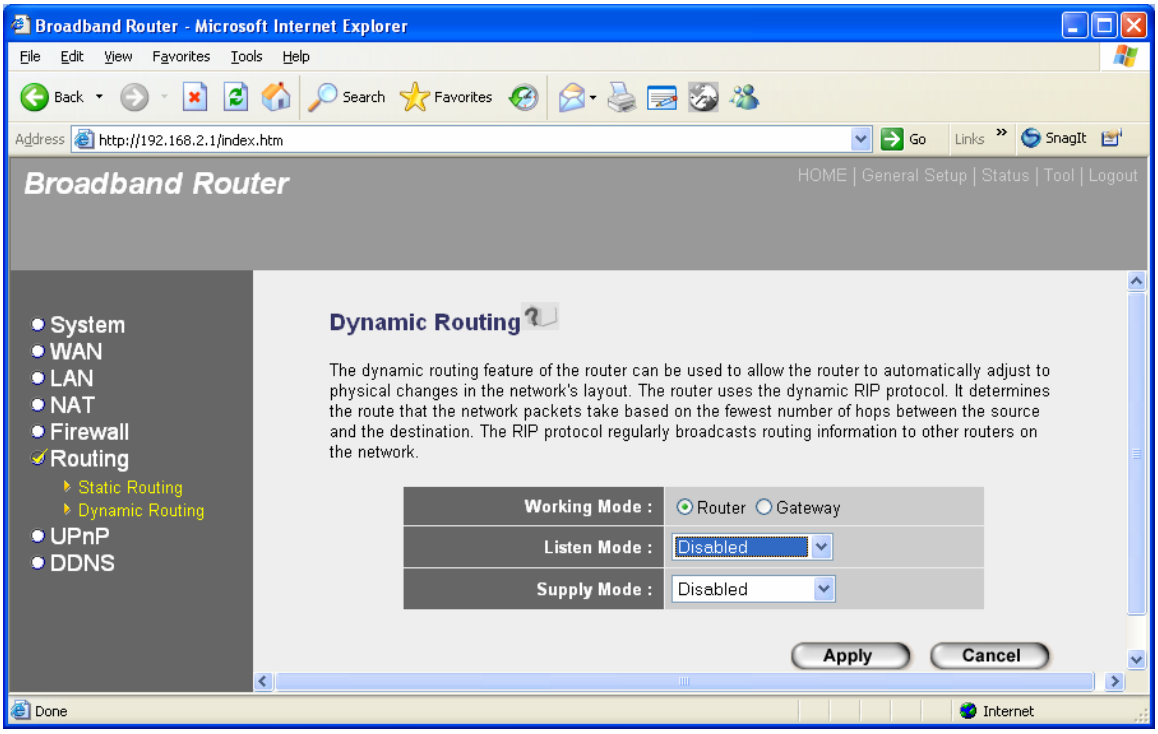


Parameters	Description
Destination LAN IP	The network IP address of the destination LAN.
Subnet Mask	The IP subnet mask of the destination LAN.
Gateway	The IP address of the neighbor gateway in the path toward the destination LAN.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.6.2 Dynamic Routing

Dynamic Routing allows the router to automatically adjust the physical changes in the network layout.

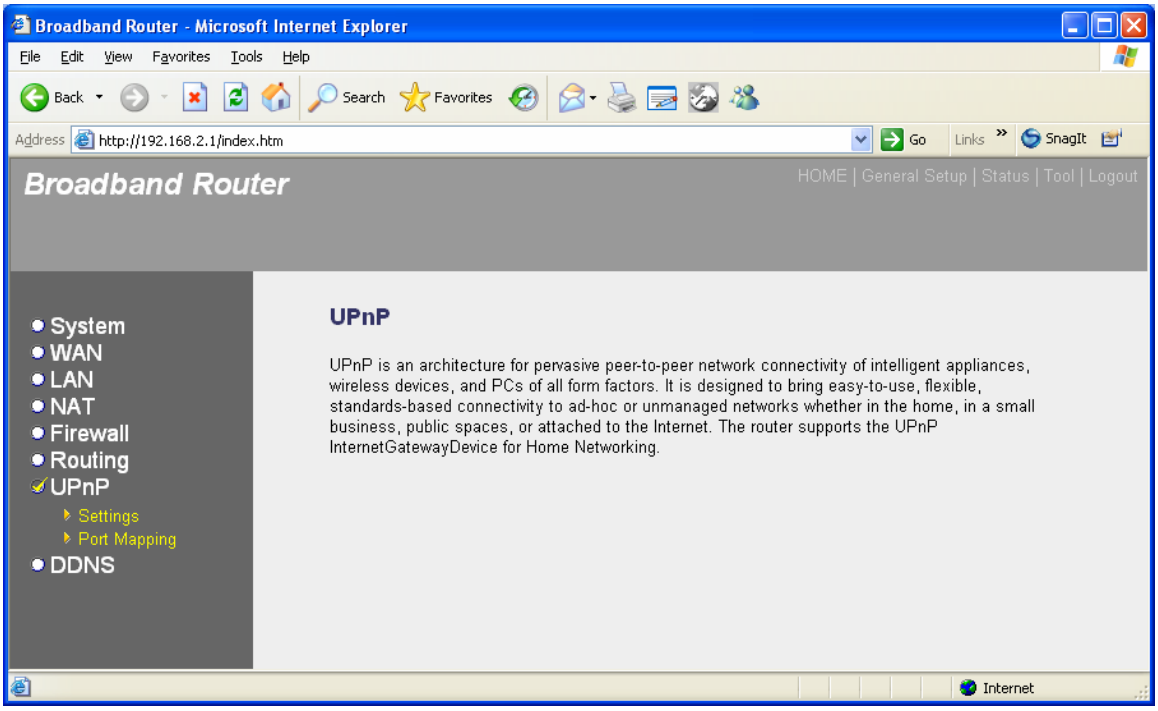

Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
System
WAN
LAN
NAT
Firewall
Routing
Static Routing
Dynamic Routing
UPnP
DDNS
Dynamic Routing
The dynamic routing feature of the router can be used to allow the router to automatically adjust to physical changes in the network's layout. The router uses the dynamic RIP protocol. It determines the route that the network packets take based on the fewest number of hops between the source and the destination. The RIP protocol regularly broadcasts routing information to other routers on the network.
Working Mode : Router Gateway
Listen Mode : Disabled
Supply Mode : Disabled
Apply
Cancel
Done
Internet

Parameters	Description
Working Mode	Select the working mode of dynamic routing. You can select “Router” or “Gateway”.
Listen Mode	Select the dynamic routing protocol that this router will listen to. You also can select “Disabled” to discard the dynamic routing packets.
Supply Mode	Select the dynamic routing protocol that this router will use to provide routing information. You also can select “Disabled” to let the router stop providing routing information.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.7 UPnP

UPnP allows you to configure UPnP (Universal Plug and Play) Internet Gateway Device parameters.

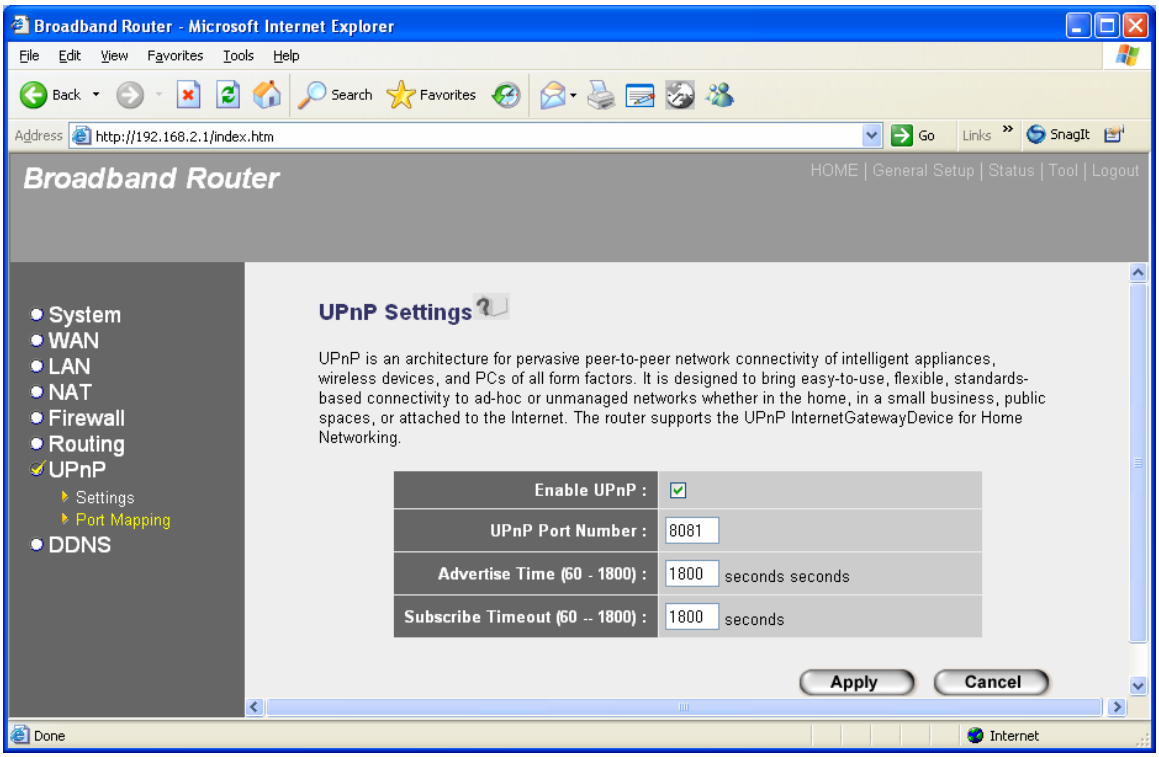

Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
System
WAN
LAN
NAT
Firewall
Routing
UPnP
Settings
Port Mapping
DDNS
UPnP
UPnP is an architecture for pervasive peer-to-peer network connectivity of intelligent appliances, wireless devices, and PCs of all form factors. It is designed to bring easy-to-use, flexible, standards-based connectivity to ad-hoc or unmanaged networks whether in the home, in a small business, public spaces, or attached to the Internet. The router supports the UPnP InternetGatewayDevice for Home Networking.
Internet

Parameters	Description
2.7.1 Settings	Allow you to configure the parameters of UPnP.
2.7.2 Port Mapping	Allow you to look up Port Mapping of UPnP.

Click on one of the UPnP selections and proceed to the manual's relevant sub-section

2.7.1 UPnP Settings

UPnP Settings allows you to configure the basic parameters of UPnP.


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
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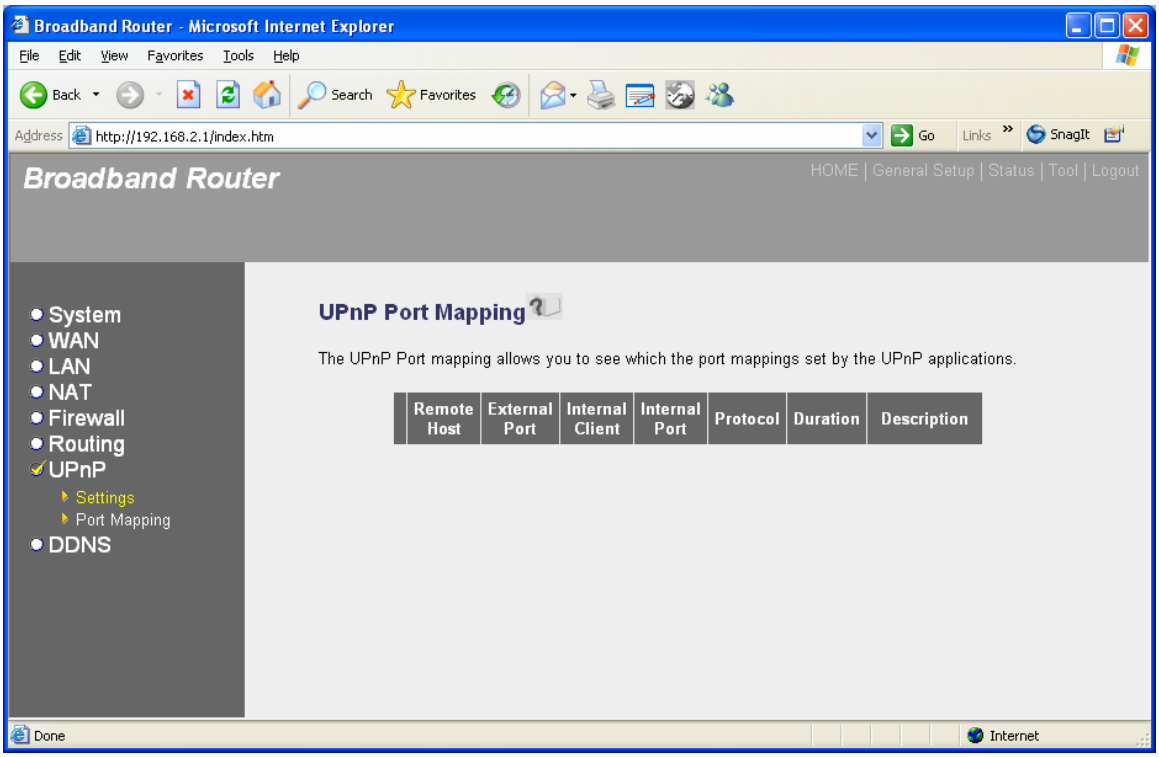
Broadband Router
HOME | General Setup | Status | Tool | Logout
System
WAN
LAN
NAT
Firewall
Routing
UPnP
Settings
Port Mapping
DDNS
UPnP Settings
UPnP is an architecture for pervasive peer-to-peer network connectivity of intelligent appliances, wireless devices, and PCs of all form factors. It is designed to bring easy-to-use, flexible, standards-based connectivity to ad-hoc or unmanaged networks whether in the home, in a small business, public spaces, or attached to the Internet. The router supports the UPnP InternetGatewayDevice for Home Networking.
Enable UPnP :
UPnP Port Number : 8081
Advertise Time (60 - 1800) : 1800 seconds seconds
Subscribe Timeout (60 -- 1800) : 1800 seconds
Apply
Cancel
Done
Internet

Parameters	Description
Enable UPnP	Check this box to enable the UPnP function.
UPnP Port Number	Enter the port number used by UPnP.
Advertise Time	Enter the interval in second that the router advertise its existence as an UPnP IGD.
Subscribe Timeout	Enter the valid time of a subscription.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

2.7.2 UPnP Port Mapping

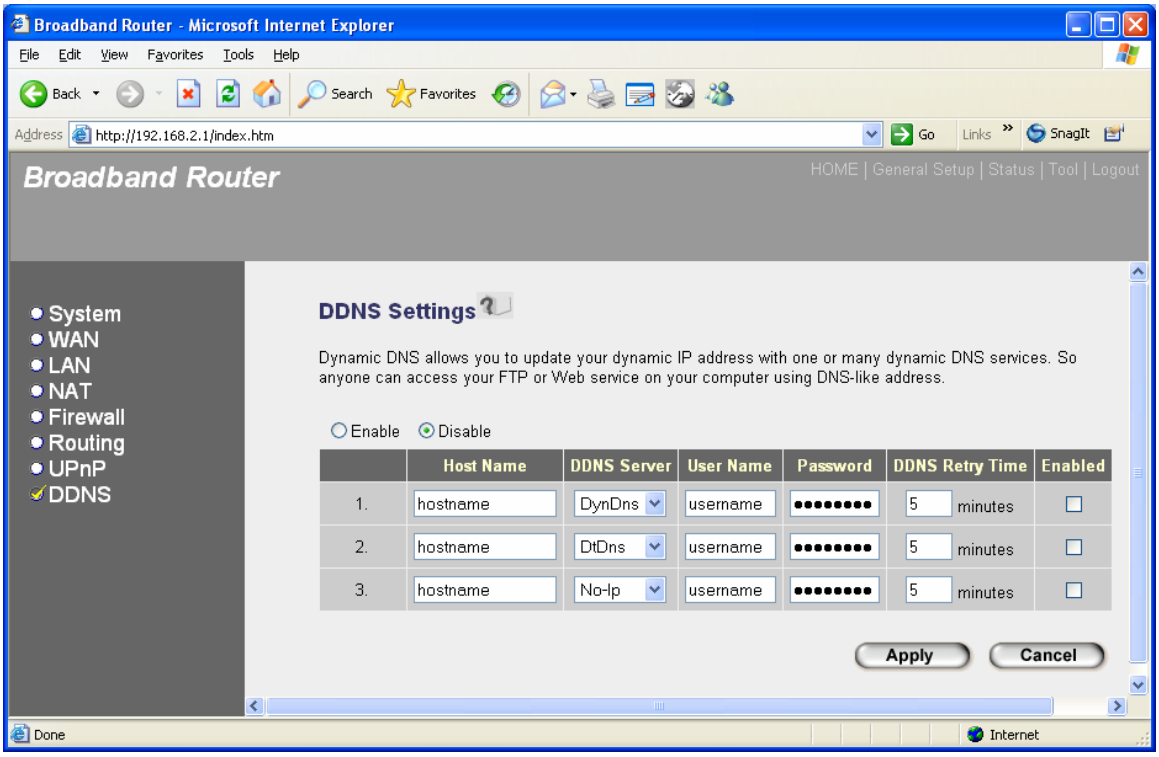
UPnP Port Mapping allows you to see the port mappings of UPnP applications.



Parameters	Description
Disable Port Mapping	You can uncheck the box in the first column to disable the port mapping.

2.8 DDNS

DDNS allows you to map the static domain name to a dynamic IP address. You must get an account, password and your static domain name from the DDNS service providers.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Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
System
WAN
LAN
NAT
Firewall
Routing
UPnP
DDNS
DDNS Settings
Dynamic DNS allows you to update your dynamic IP address with one or many dynamic DNS services. So anyone can access your FTP or Web service on your computer using DNS-like address.
Enable Disable
Host Name DDNS Server User Name Password DDNS Retry Time Enabled
1. hostname DynDns username 5 minutes
2. hostname DtDns username 5 minutes
3. hostname No-Ip username 5 minutes
Apply Cancel
Done
Internet

Parameters	Description
Enable DDNS	Select “Enable” above the table to enable DDNS function.
Disable DDNS	Select “Disable” above the table to disable DDNS function.
Host Name	Enter the host name of your server.
DDNS Server	Select the DDNS service provider to make use of the DDNS server.
User Name	Enter the user name of the account given by the DDNS service provider.
Password	Enter the password of the account given by the DDNS service provider.
DDNS Retry Time	Enter the retry time in minutes of the DDNS registration.

Enable	Check this box to enable this DDNS entry.

Click <**Apply>** at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the router (with the advance settings in place)

Chapter 3

Status

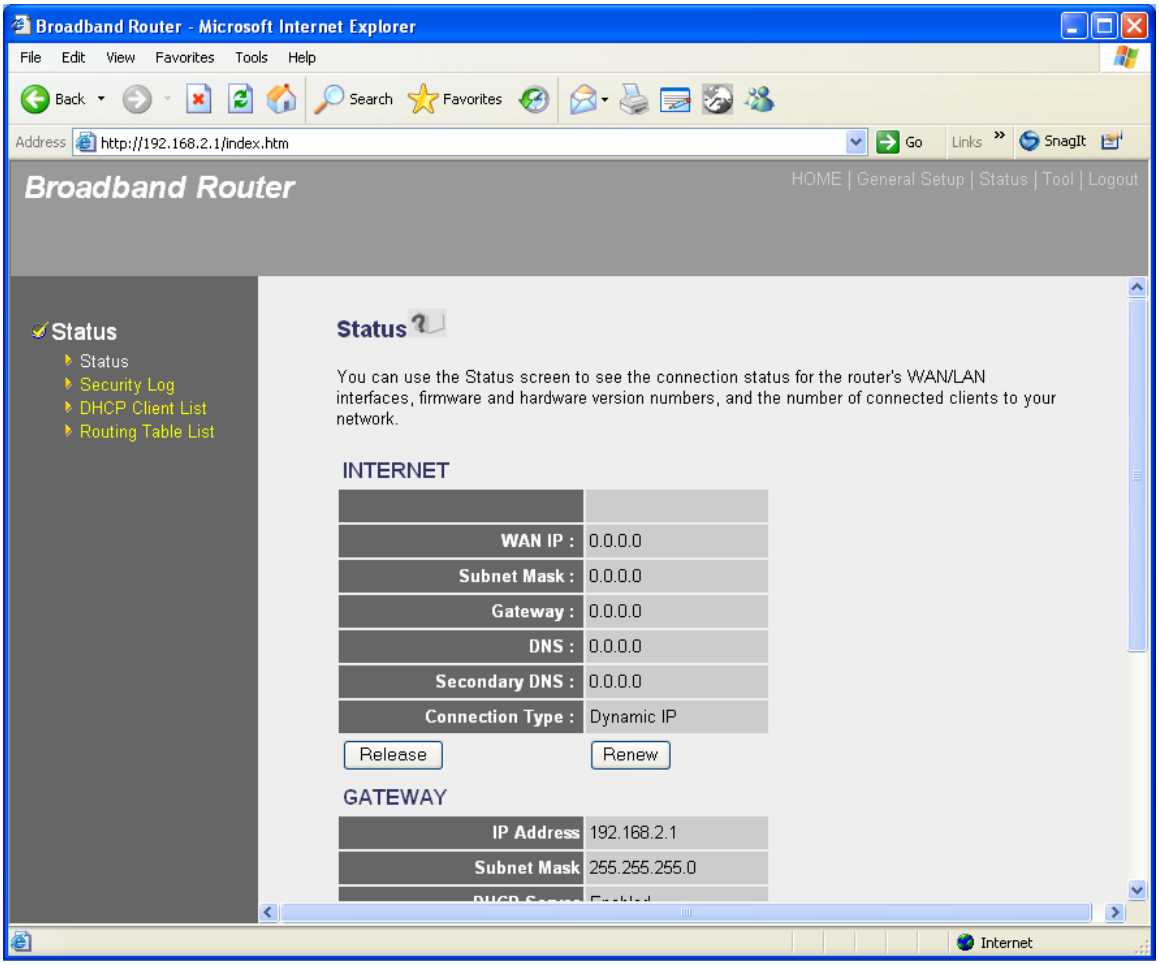
The Status section allows you to monitor the current status of your router. You can use the Status page to monitor: the connection status of the Broadband router's WAN/LAN interfaces, the current firmware and hardware version numbers, any illegal attempts to access your network, and information on all DHCP client PCs currently connected to your network.

Parameters	Description
3.1 Status	Shows the router's system information and Internet connection status
3.2 Security Log	Shows the router's security log information
3.5 DHCP Client List	View your LAN client's information that is currently linked to the Broadband router's DHCP server
3.6 Routing Table List	Shows the routing table of this router

Select one of the above four Status selections and proceed to the manual's relevant sub-section

3.1 Status

The Status section allows you to view the router's system information and Internet connection status.


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
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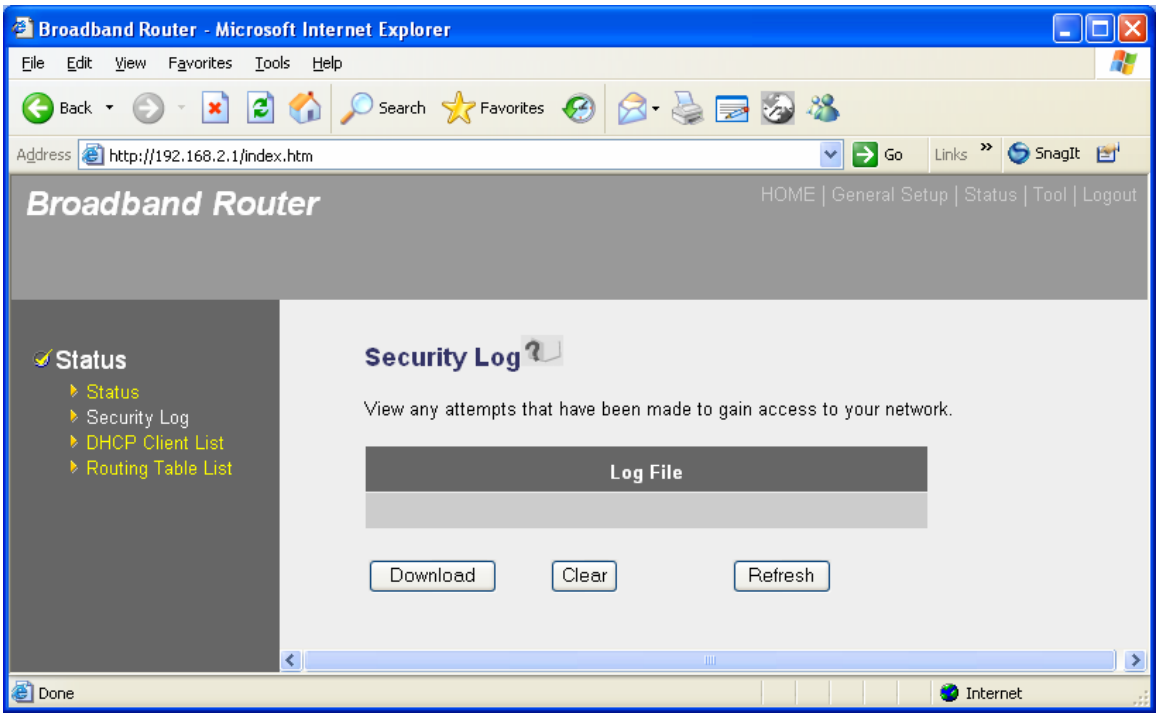
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
Status
Status
Security Log
DHCP Client List
Routing Table List
Status
You can use the Status screen to see the connection status for the router's WAN/LAN interfaces, firmware and hardware version numbers, and the number of connected clients to your network.
INTERNET
WAN IP : 0.0.0.0
Subnet Mask : 0.0.0.0
Gateway : 0.0.0.0
DNS : 0.0.0.0
Secondary DNS : 0.0.0.0
Connection Type : Dynamic IP
Release
Renew
GATEWAY
IP Address 192.168.2.1
Subnet Mask 255.255.255.0
Internet

Parameters	Description
Information	You can see the router's system information such as the router's: LAN MAC Address, WAN MAC Address, Hardware version, Serial Number, Boot code Version, Runtime code Version. You also can see the Internet connection status. It also displays the router's WAN port: WAN IP address, Subnet Mask, and ISP Gateway as well as the Primary DNS and Secondary DNS being used.

3.2 Security Log

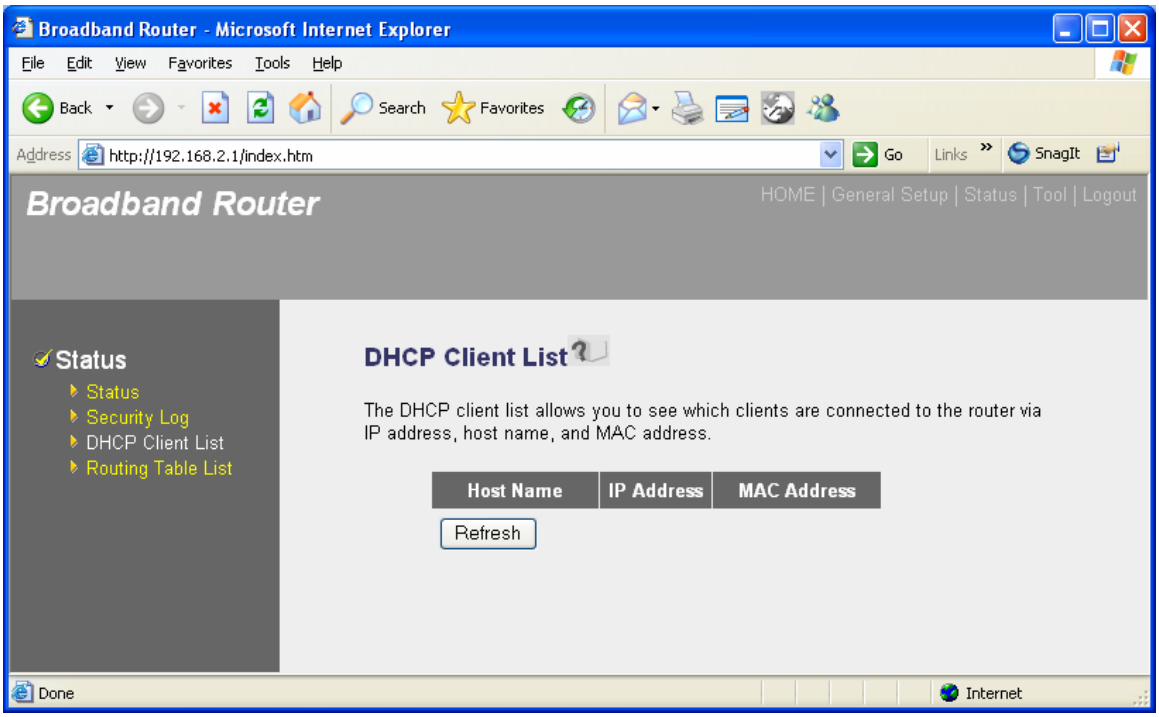
View any attempts that have been made to gain access to your network.



Parameters	Description
Security Log	This page shows the current security log of the Broadband router. It displays any attempts to access your network. At the bottom of the page, the security log can be saved <**Download**> to a local file for further processing or the security log can be cleared <**Clear**> or it can be refreshed <**Refresh**> to get the most updated situation. When the system is powered down, the security log will disappear if not saved to a local file.

3.3 DHCP Client List

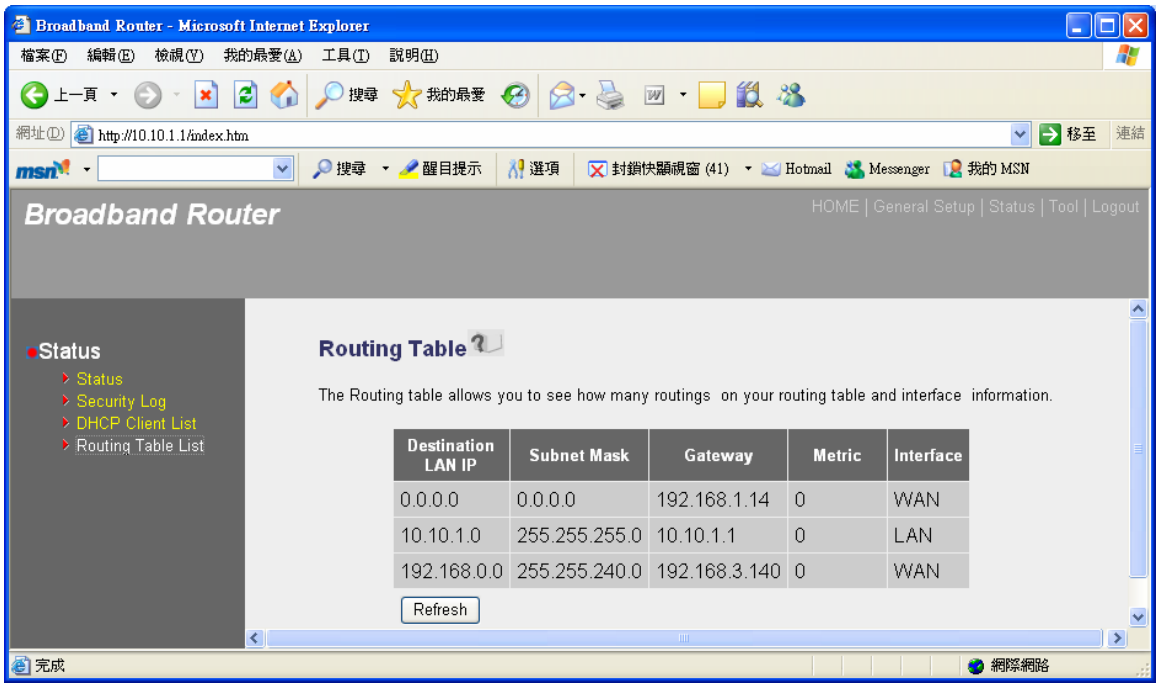
View your LAN client's information that is currently linked to the Broadband router's DHCP server



Parameters	Description
DHCP Client Log	This page shows all DHCP clients (LAN PCs) currently connected to your network. It displays the **IP** address and the **MAC** address and **Host Name** of each LAN Client. Use the **Refresh** button to get the most updated situation.

3.4 Routing Table List

View the routing table of this router.

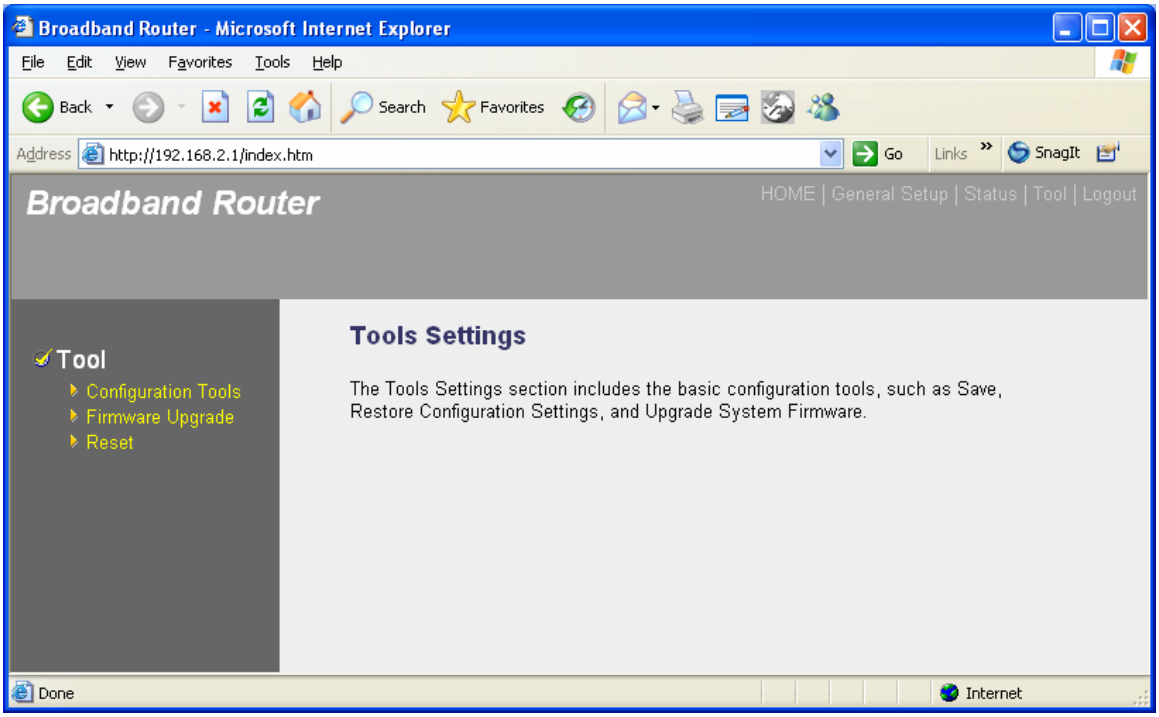


Parameters	Description
Routing Table	This page shows the routing table of this router. It displays the Destination LAN IP, Subnet Mask, Gateway, Metric and Interface of each routing table entry. Use the **Refresh** button to get the most updated situation

Chapter 4

Tools

This page includes the basic configuration tools, such as Configuration Tools (save or restore configuration settings), Firmware Upgrade (upgrade system firmware) and Reset.

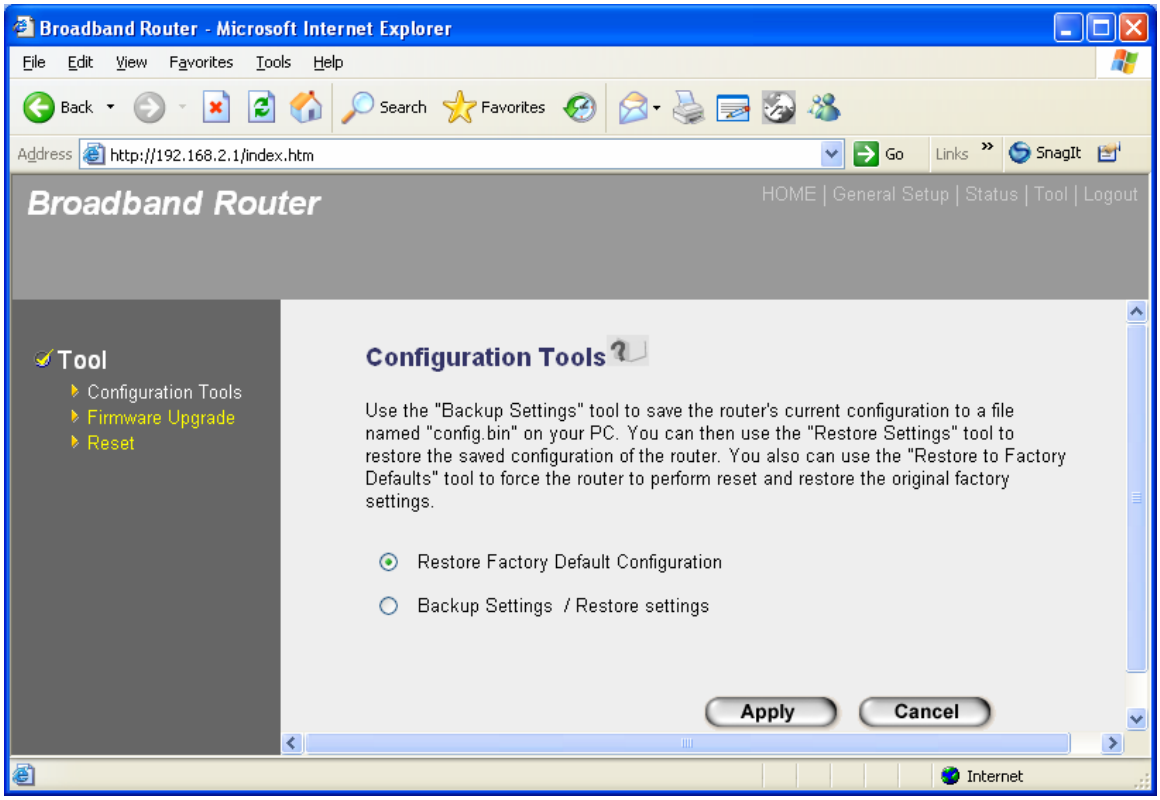

Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
Tool
Configuration Tools
Firmware Upgrade
Reset
Tools Settings
The Tools Settings section includes the basic configuration tools, such as Save, Restore Configuration Settings, and Upgrade System Firmware.
Done
Internet

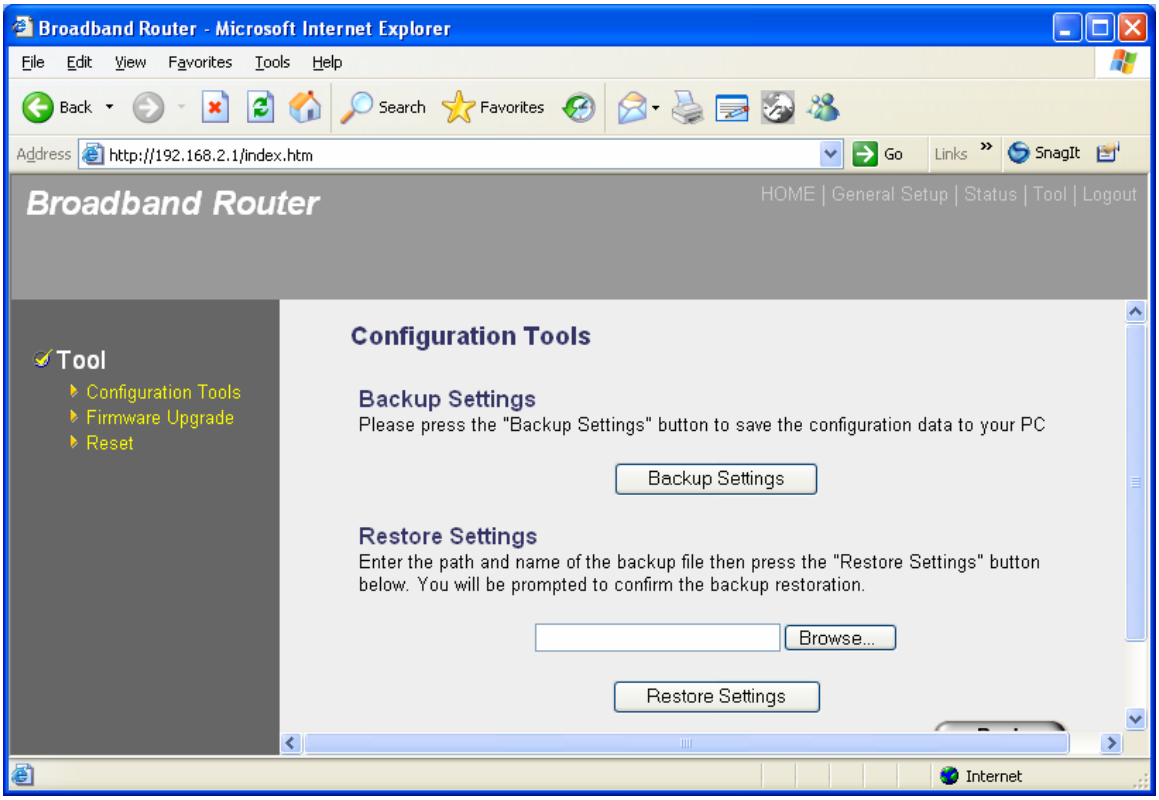
Parameters	Description
4.1 Configuration Tools	You can save the router's current configuration, restore the router's saved configuration files and restore the router's factory default settings
4.2 Firmware Upgrade	This page allows you to upgrade the router's firmware
4.3 Reset	You can reset the router's system should any problem exist

Select one of the above three **Tools Settings** selection and proceed to the manual's relevant sub-section

4.1 Configuration Tools

The Configuration Tools screen allows you to save (**Backup**) the router's current configuration setting. Saving the configuration settings provides an added protection and convenience should problems occur with the router and you have to reset to factory default. When you save the configuration setting (Backup) you can re-load the saved configuration into the router through the **Restore** selection. If extreme problems occur you can use the **Restore to Factory Defaults** selection, this will set all configurations to its original default settings (e.g. when you first purchased the router).

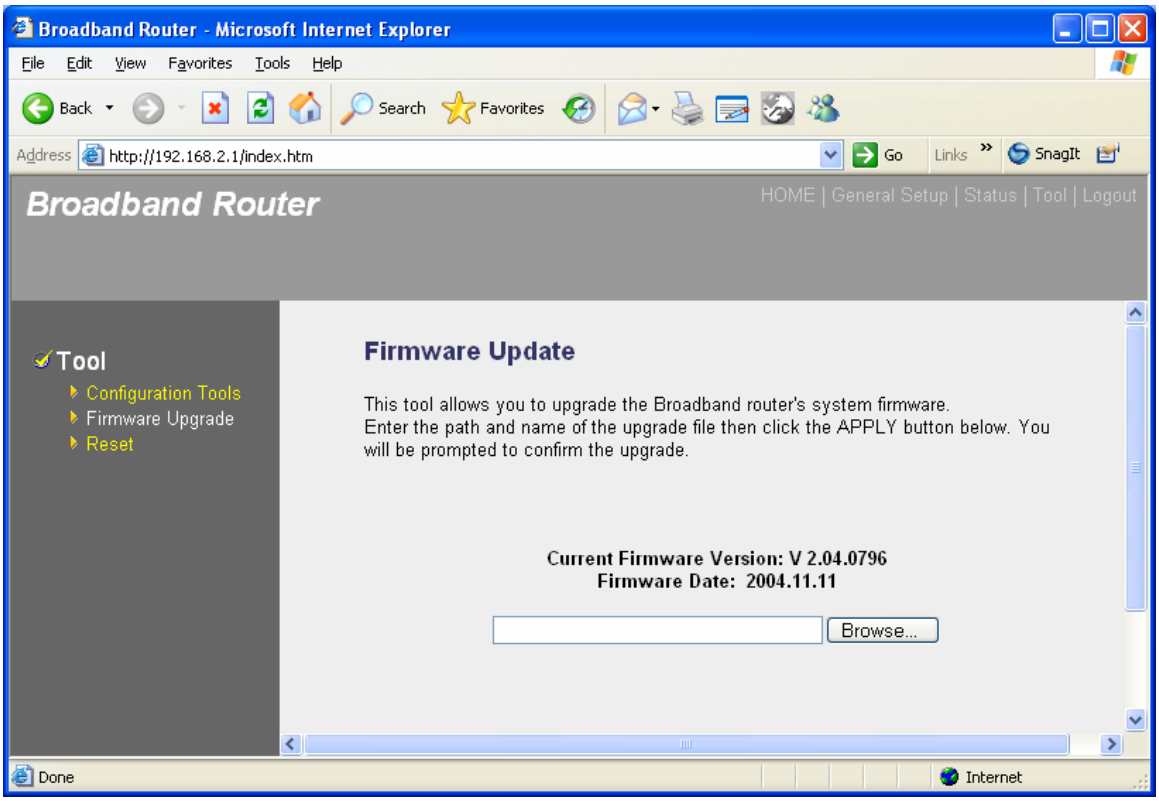

Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
Tool
Configuration Tools
Firmware Upgrade
Reset
Configuration Tools
Use the "Backup Settings" tool to save the router's current configuration to a file named "config.bin" on your PC. You can then use the "Restore Settings" tool to restore the saved configuration of the router. You also can use the "Restore to Factory Defaults" tool to force the router to perform reset and restore the original factory settings.
Restore Factory Default Configuration
Backup Settings / Restore settings
Apply
Cancel
Internet


Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
Tool
Configuration Tools
Firmware Upgrade
Reset
Configuration Tools
Backup Settings
Please press the "Backup Settings" button to save the configuration data to your PC
Backup Settings
Restore Settings
Enter the path and name of the backup file then press the "Restore Settings" button below. You will be prompted to confirm the backup restoration.
Browse...
Restore Settings
Internet

Parameters	Description
Configuration Tools	Use the "**Backup**" tool to save the Broadband router current configuration to a file named "config.bin" on your PC. You can then use the "**Restore**" tool to restore the saved configuration to the Broadband router. Alternatively, you can use the "**Restore to Factory Defaults**" tool to force the Broadband router to perform a power reset and restore the original factory settings.

4.2 Firmware Upgrade

This page allows you to upgrade the router's firmware

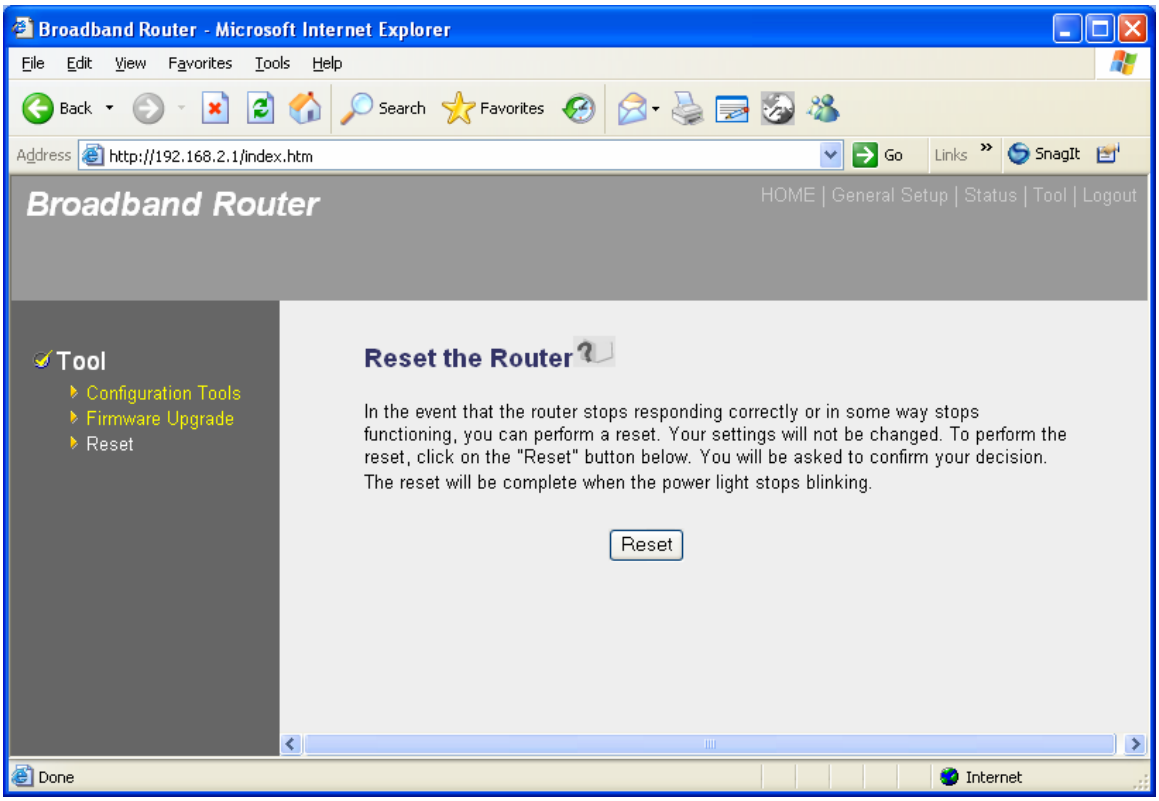

Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
Tool
Configuration Tools
Firmware Upgrade
Reset
Firmware Update
This tool allows you to upgrade the Broadband router's system firmware.
Enter the path and name of the upgrade file then click the APPLY button below. You will be prompted to confirm the upgrade.
Current Firmware Version: V 2.04.0796
Firmware Date: 2004.11.11
Browse...
Done
Internet

Parameters	Description
Firmware Upgrade	This tool allows you to upgrade the Broadband router's system firmware. To upgrade the firmware of your Broadband router, you need to download the firmware file to your local hard disk, and enter that file name and path in the appropriate field on this page. You can also use the Browse button to find the firmware file on your PC.

Once you've selected the new firmware file, click <**Apply>** at the bottom of the screen to start the upgrade process. (You may have to wait a few minutes for the upgrade to complete). Once the upgrade is complete you can start using the router.

4.3 Reset

You can reset the router's system should any problem exist. The reset function essentially Re-boots your router's system

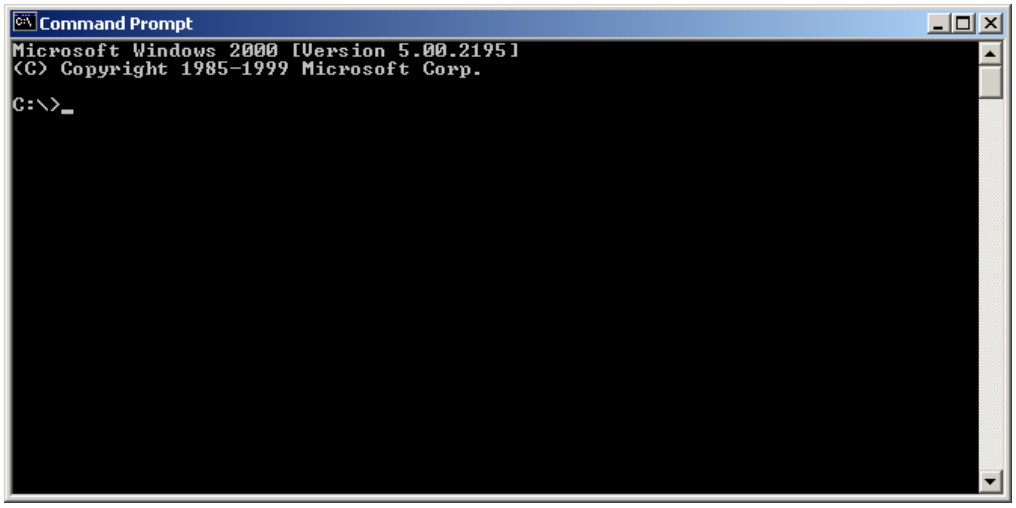

Broadband Router - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.2.1/index.htm
Go Links SnagIt
Broadband Router
HOME | General Setup | Status | Tool | Logout
Tool
Configuration Tools
Firmware Upgrade
Reset
Reset the Router
In the event that the router stops responding correctly or in some way stops functioning, you can perform a reset. Your settings will not be changed. To perform the reset, click on the "Reset" button below. You will be asked to confirm your decision. The reset will be complete when the power light stops blinking.
Reset
Done
Internet

Parameters	Description
Reset	In the event that the system stops responding correctly or in some way stops functioning or you modify the configuration, you can perform a reset. **Your settings will not be changed**. To perform the reset, click on the <Reset> button. You will be asked to confirm your decision. The reset will be complete when the power light stops blinking. Once the reset process is complete you may start using the router again. **Note:** Every time when you finished configuration, please reset the router to make sure that the new settings take effect.

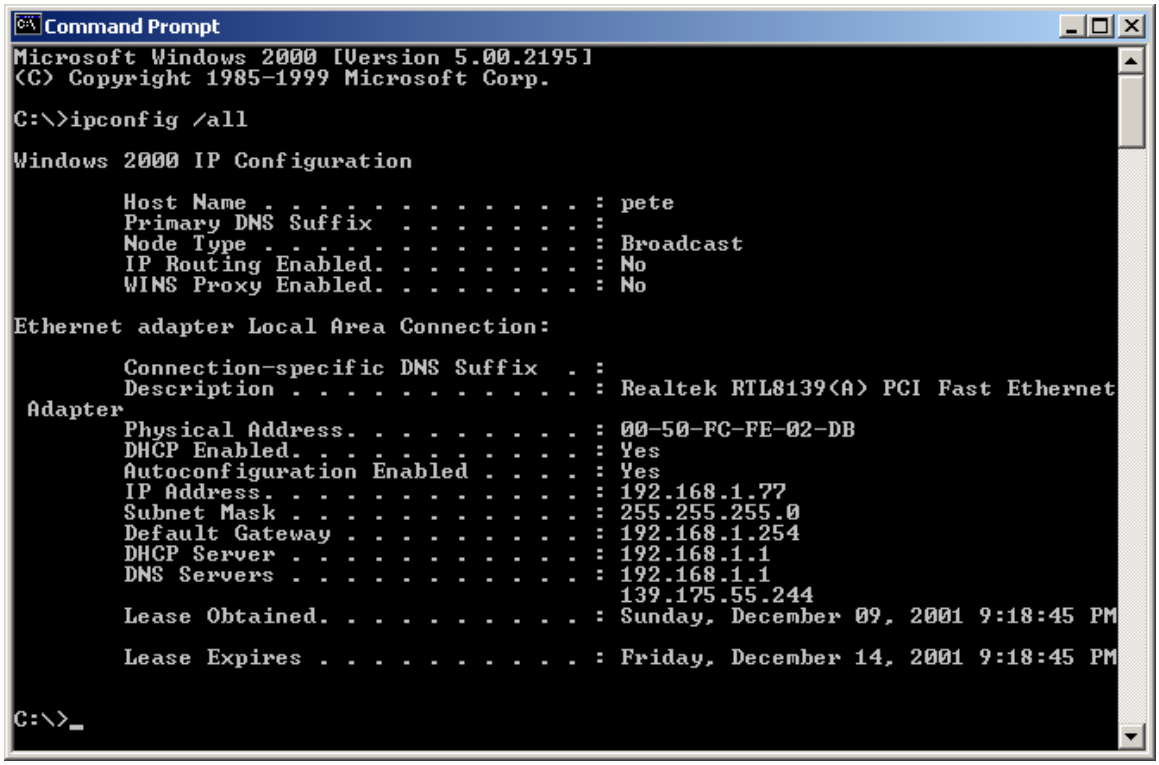
Appendix A

How to Manually find your PC's IP and MAC address

1) In Window's open the Command Prompt program



2) Type **Ipconfig /all** and <enter>


Command Prompt
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-1999 Microsoft Corp.
C:\>ipconfig /all
Windows 2000 IP Configuration
Host Name . . . . . : pete
Primary DNS Suffix . . . . . :
Node Type . . . . . : Broadcast
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . :
Description . . . . . : Realtek RTL8139(A) PCI Fast Ethernet Adapter
Physical Address. . . . . : 00-50-FC-FE-02-DB
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
IP Address. . . . . : 192.168.1.77
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.1.254
DHCP Server . . . . . : 192.168.1.1
DNS Servers . . . . . : 192.168.1.1
139.175.55.244
Lease Obtained. . . . . : Sunday, December 09, 2001 9:18:45 PM
Lease Expires . . . . . : Friday, December 14, 2001 9:18:45 PM
C:\>_

- Your PC's IP address is the one entitled **IP address** (192.168.1.77)
- The router's IP address is the one entitled **Default Gateway** (192.168.1.254)
- Your PC's MAC Address is the one entitled **Physical Address** (00-50-FC-FE-02-DB)

Glossary

Bridge: A bridge is an intelligent, internetworking device that forwards or filters packets between different networks based on data link layer (MAC) address information.

Default Gateway (Router): Every non-router IP device needs to configure a default gateway's IP address. When the device sends out an IP packet, if the destination is not on the same network, the device has to send the packet to its default gateway, which will then send it out towards the destination.

DHCP: Dynamic Host Configuration Protocol. This protocol automatically gives every computer on your home network an IP address.

DNS Server IP Address: DNS stands for Domain Name System, which allows Internet servers to have a domain name (such as www.Broadbandrouter.com) and one or more IP addresses (such as 192.34.45.8). A DNS server keeps a database of Internet servers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "Broadbandrouter.com" into your Internet browser), the user is sent to the proper IP address. The DNS server IP address used by the computers on your home network is the location of the DNS server your ISP has assigned to you.

DSL Modem: DSL stands for Digital Subscriber Line. A DSL modem uses your existing phone lines to transmit data at high speeds.

Ethernet: A standard for computer networks. Ethernet networks are connected by special cables and hubs, and move data around at up to 10/100 million bits per second (Mbps).

Idle Timeout: Idle Timeout is designed so that after there is no traffic to the Internet for a pre-configured amount of time, the connection will automatically be disconnected.

IP Address and Network (Subnet) Mask: IP stands for Internet Protocol. An IP address consists of a series of four numbers separated by periods, that identifies a single, unique Internet computer host in an IP network. Example: 192.168.2.1. It consists of 2 portions: the IP network address, and the host identifier.

The IP address is a 32-bit binary pattern, which can be represented as four cascaded decimal numbers separated by ".": aaa.aaa.aaa.aaa, where each "aaa" can be anything from 000 to 255, or as four cascaded binary numbers separated by ".": bbbbbbbb.bbbbbbbb.bbbbbbbb.bbbbbbbb, where each "b" can either be 0 or 1.
A network mask is also a 32-bit binary pattern, and consists of consecutive leading 1's followed by consecutive trailing 0's, such as 11111111.11111111.11111111.00000000. Therefore sometimes a network mask can also be described simply as "x" number of leading 1's.
When both are represented side by side in their binary forms, all bits in the IP address that correspond to 1's in the network mask become part of the IP network address, and the remaining bits correspond to the host ID.

For example, if the IP address for a device is, in its binary form,
11011001.10110000.10010000.00000111, and if its network mask is,
11111111.11111111.11110000.00000000
It means the device's network address is
11011001.10110000.10010000.00000000, and its host ID is,
00000000.00000000.00000000.00000111. This is a convenient and efficient method for routers to route IP packets to their destination.

ISP Gateway Address: (see ISP for definition). The ISP Gateway Address is an IP address for the Internet router located at the ISP's office.

ISP: Internet Service Provider. An ISP is a business that provides connectivity to the Internet for individuals and other businesses or organizations.

LAN: Local Area Network. A LAN is a group of computers and devices connected together in a relatively small area (such as a house or an office). Your home network is considered a LAN.

MAC Address: MAC stands for Media Access Control. A MAC address is the hardware address of a device connected to a network. The MAC address is a unique identifier for a device with an Ethernet interface. It is comprised of two parts: 3 bytes of data that corresponds to the Manufacturer ID (unique for each manufacturer), plus 3 bytes that are often used as the product's serial number.

NAT: Network Address Translation. This process allows all of the computers on your home network to use one IP address. Using the broadband router's NAT capability, you can access the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

Port: Network Clients (LAN PC) uses port numbers to distinguish one network application/protocol over another. Below is a list of common applications and protocol/port numbers:

Application	Protocol	Port Number
Telnet	TCP	23
FTP	TCP	21
SMTP	TCP	25
POP3	TCP	110
H.323	TCP	1720
SNMP	UCP	161
SNMP Trap	UDP	162
HTTP	TCP	80
PPTP	TCP	1723
PC Anywhere	TCP	5631
PC Anywhere	UDP	5632

PPPoE: Point-to-Point Protocol over Ethernet. Point-to-Point Protocol is a secure data transmission method originally created for dial-up connections; PPPoE is for Ethernet connections. PPPoE relies on two widely accepted standards, Ethernet and the Point-to-Point Protocol. It is a communications protocol for transmitting information over Ethernet between different manufacturers

Protocol: A protocol is a set of rules for interaction agreed upon between multiple parties so that when they interface with each other based on such a protocol, the interpretation of their behavior is well defined and can be made objectively, without confusion or misunderstanding.

Router: A router is an intelligent network device that forwards packets between different networks based on network layer address information such as IP addresses.

Subnet Mask: A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers (e.g. 255.255.255.0) configured like an IP address. It is used to create IP address numbers used only within a particular network (as opposed to valid IP address numbers recognized by the Internet, which must be assigned by InterNIC).

TCP/IP, UDP: Transmission Control Protocol/Internet Protocol (TCP/IP) and Unreliable Datagram Protocol (UDP). TCP/IP is the standard protocol for data transmission over the Internet. Both TCP and UDP are transport layer protocol. TCP performs proper error detection and error recovery, and thus is reliable. UDP on the other hand is not reliable. They both run on top of the IP (Internet Protocol), a network layer protocol.

WAN: Wide Area Network. A network that connects computers located in geographically separate areas (e.g. different buildings, cities, countries). The Internet is a wide area network.

Web-based management Graphical User Interface (GUI): Many devices support a graphical user interface that is based on the web browser. This means the user can use the familiar Netscape or Microsoft Internet Explorer to Control/configure or monitor the device being managed.